

FINAL REPORT

NATCHEZ TRACE PARKWAY
AVIFAUNA
INVENTORY PROJECT

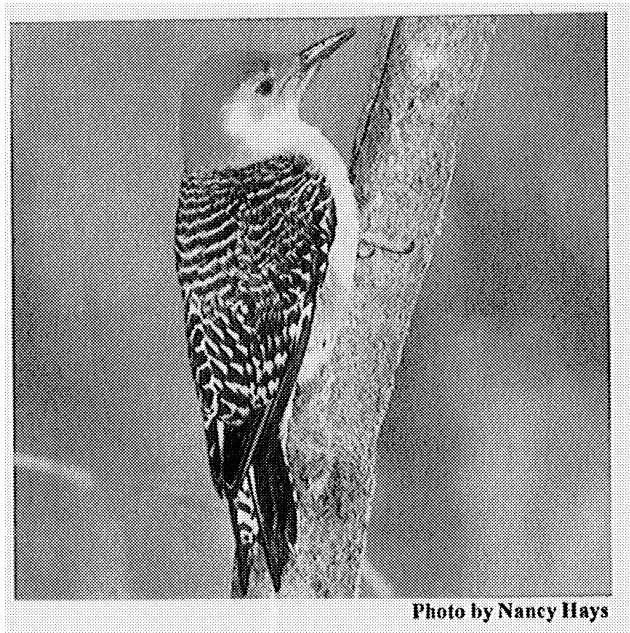


Photo by Nancy Hays

FOR
NATIONAL PARK SERVICE
NATCHEZ TRACE PARKWAY

MAY 2001

FINAL REPORT

NATCHEZ TRACE PARKWAY
AVIFAUNA
INVENTORY PROJECT

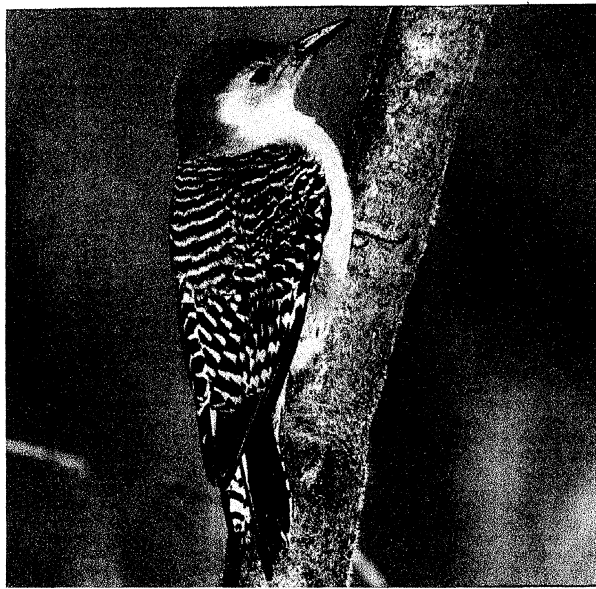


Photo by Nancy Hays

FOR
NATIONAL PARK SERVICE
NATCHEZ TRACE PARKWAY

BY
ACCIPITER BIOLOGICAL CONSULTANTS
PO Box 16332
Portal, AZ 85632

MAY 2001

FINAL REPORT NATCHEZ TRACE PARKWAY AVIFAUNA INVENTORY PROJECT

Section I Introduction

The National Park Service (NPS) is responsible for the preservation of native wildlife, including bird species, within the 51,410 acre Natchez Trace Parkway in accordance with the 1916 NPS Organic Act, as amended and this direction is re-enforced through both NPS policy and guidelines affecting natural resource management.

NPS management policy stipulates that the bureau "has an obligation to manage the natural resources of the National Park System to maintain and perpetuate their inherent integrity." This same policy goes on to state that the NPS "will assemble baseline inventory data describing the natural resources under its stewardship and will monitor those resources...to detect or predict changes. The resulting information will be analyzed to detect changes that may require intervention and to provide reference points for comparison with other, more altered environments." NPS guidelines provide guidance on the implementation of natural resource inventories and information needs in the parks. NPS-75 (NPS Natural Resources Inventory and Monitoring Guideline) summarizes the importance of this information as follows: "Knowing the condition of natural resources within the National Park System is fundamental to the NPS's ability to protect and manage the parks."

Currently, NPS managers at the Natchez Trace Parkway possess neither a comprehensive baseline inventory nor the information upon which to base monitoring of the Parkway's bird species utilizing park lands and waters. In recent years, the shift to protecting biodiversity through the preservation of functional ecosystems, has made reliable inventory and monitoring programs of critical importance to NPS management. Without detailed information on the distribution, habitat requirements and relative abundance of native bird species, resource managers may only preserve that portion of the fauna which is highly visible or economically important. The current lack of statistically sound information on the avifauna of the Parkway is a critical deficiency in fulfilling park management's responsibility to identify and respond to potential issues necessary to achieve the NPS's resource stewardship mandate. For these reasons, Accipiter Biological Consultants was contracted by the NPS to design and develop a park-wide inventory of birds currently occurring at the Parkway.

Section II Inventory Goals and Objectives

The Natchez Trace Parkway Avifauna Inventory Project constitutes applied research designed to provide park management with the following:

Goal 1: Baseline inventory documenting the current composition and distribution of bird species at the Natchez Trace Parkway.

Objective 1A: Develop bird taxa-specific estimates of species richness and species-specific estimates of relative abundance for the Natchez Trace Parkway motor road corridor at the park-wide and physiographic regions levels.

Objective 1B: Develop bird taxa-specific estimates of species richness and species-specific estimates of relative abundance for the nonagricultural Natchez Trace Parkway lands and waters unaffected by the Parkway motor road corridor at the park-wide and physiographic regions levels.

Goal 2: Secure initial sample information on the habitat associations of Natchez Trace Parkway bird species to provide the basis for future monitoring to identify potential change from current resource conditions.

Objective 2A: Georeference sampling sites used to achieve Objective 1A and 1B to permit their relocation and use in future repetition of Natchez Trace Parkway bird surveys for monitoring purposes.

Objective 2B: Develop distribution mapping of Natchez Trace Parkway bird species for use in interpreting the results of future repetition of the bird survey for monitoring purposes.

Section III Methodologies and Sampling Approaches

After being contracted to accomplish the Natchez Trace Parkway Avifauna Inventory Project, the following steps were taken by Accipiter Biological Consultants:

A literature search was undertaken to accomplish two purposes; to obtain a list of potential species which might be encountered during the study and to attempt to link habitat preferences within the species range to habitats available on the Natchez Trace Parkway. The first objective was accomplished by the use of popular field guides, lists formed by other groups doing ornithological studies on the Natchez Trace Parkway and the use of the NPS's Resource Management Assessment Program (R-MAP) and other literature provided by the NPS on birds in the general area. The second objective was accomplished by the use of the same literature base and contact with other researchers who had done work in the area, particularly in the area of Breeding Bird Surveys. This contact was accomplished primarily through the US Fish and Wildlife Service's web page regarding Breeding Bird Surveys. All Breeding Bird Survey routes which bisect or came within 50 miles of the Natchez Trace Parkway were summarized to provide a working list of potential species. Combining these lists resulted in 204 potential species to be found on the Parkway. This work was accomplished in November and December 1998.

Due to the diversity of the Parkway's avifauna and the range of habitats involved, multiple methods were necessary to obtain an adequate inventory of these species. The Natchez Trace Parkway Avifauna Inventory employed three sampling approaches; Breeding Bird Surveys, Southeastern Point Counts, and Road Counts for raptor species.

The month of January 1999 was utilized to locate sites to accomplish each of these sampling approaches. Information on each of these strategies, number and locating methodologies, basis for use and data analysis are summarized below. The Breeding Bird Survey provides park-wide inventory data in an efficient manner but is biased by the pronounced effects of the Parkway motor road corridor on habitats and birds using it. Most significantly, an inventory confined to this corridor would not provide information indicative of bird species utilizing Natural Zone habitats on the Parkway lands and waters outside of the influence of the motor road corridor. The Southeastern Point Count survey provided this natural habitat species inventory. The Road Count survey for raptor species was used to supplement the two point count approaches in order to more effectively inventory the highly mobile raptor species occurring on the Parkway.

Breeding Bird Survey (BBS)

The BBS was conducted as a systematic sampling at 800 meter (0.5 mile) intervals along the 430 mile length of the completed Parkway motor road. This survey was performed largely in accordance with the standardized procedures published by the US Fish and Wildlife Service with the following exceptions; This BBS is being divided into two transects, one spanning the southern half of the Parkway (below Tupelo), to be surveyed starting around May 1 while the northern half would be surveyed after May 21 to compensate for migrant species that may not have arrived in the mid-South before the latter date. Data fields have been added to address severe weather events affecting individual sampling sites, lengthening the survey route from the standard 24.5 mile transect to that of the more lengthy Parkway, and the extension of the standard 3 minute sampling interval by 45 seconds for each vehicle passing the sampler, not to exceed an additional 3 minutes per sample point (data from the standard 3 minute sampling interval was distinguished from that collected from any extension).

All sampling using this methodology occurred only between 30 minutes prior to local sunrise and 10:00 a.m. daylight savings time or 9:00 a.m. standard time.

An entire set of Breeding Bird Survey transects were accomplished and data was compiled during May 1999 and during May 2000 with results appearing in the final report.

Southeastern Point Count (SEPTCT)

The SEPTCT provides a stratified random sampling of habitats within the Parkway's Natural Zone lands and waters. The survey procedures and methods used by Accipiter Biological Consultants follow those published by the US Forest Service's Southern Research Station and is consistent with the guidelines of the monitoring working group of the Partners in Flight Neotropical Migratory Bird Conservation Program.

The sample stratification of the 300 plots located in January of 1999 proportioned the number of sampling points within each physiographic region to the relative length of the Parkway traversing it with at least two replicate sites in each major physiographic region. Within each physiographic region the sample points were further stratified to ensure that each habitat

occurring within the region is represented and that habitats which have experienced fragmentation or a significant reduction in former extent due to land use changes are also sampled. Each site was sampled twice during the breeding season (once in May and once in June) and a third time in November during each year of this study. All sampling using this methodology occurred only between 30 minutes prior to local sunrise and 10:00 a.m. daylight savings time or 9:00 a.m. standard time.

All 300 sites were surveyed during May, June and November 1999 and May, June and November 2000 with results appearing in previous reports

In addition to bird species encountered at the sites, databases have been developed to describe the physical and vegetative variables encountered at each site.

Road Counts (RC) for Raptor Species

The Road Counts for raptors consist of a series of continuous visual counts of all raptors observed during the low speed (10-25 mph) driving of specified segments (transects) of the Parkway motor road. The survey procedures utilized by Accipiter Biological Consultants are those published by Fuller and Mosher (1986).

In January 1999, 18 transects were established along the Parkway route. These locations were stratified along the length of the Parkway to ensure that all major habitats in each physiographic region were represented in the survey. Each transect is 10 miles long and was surveyed twice during each year of the study, once in May and once in November. In addition a database was developed to summarize visibility data at points every .25 mile along each of the routes.

All 18 routes were surveyed during May and November 1999 and again during May and November 2000. Results of these surveys were included in previous reports.

Section IV Analysis of Survey Methodology Efficiency

Table 1 summarizes the overall efficiency of the three field methodologies utilized in this survey as well as the efficiency of all three combined. An efficiency quotient has been established to enumerate this efficiency and is determined by dividing the number of species inventoried by a certain methodology by 204, the total number of species known to occur in the general area of the Natchez Trace Parkway. This would give a numerical value of the likelihood of a given methodology to accomplish a total inventory given the conditions available on the Natchez Trace Parkway during the survey.

Each methodology has its own strengths and weaknesses as an inventory devise. These and other potential biases will be discussed in the following paragraphs. Weather was probably not a factor affecting the efficiency of individual field methods as weather perimeters are somewhat standardized for the methodologies involved.

Table 1 Field Methodology Efficiency Analysis

Methodology	No. of Species (n)	No. of Individuals	Efficiency Quotient (n/204)
Breeding Bird Survey (BBS)	113	18,899	0.554
Southeastern Point Counts (SEPTCT)	122	19,830	0.598
Road Counts for Raptors (RC)	8	535	(n/15) 0.533
Three Combined Methodologies	134	38,239	0.657

While the efficiency quotients may appear low in this analysis, the total of 204 species includes at least fifty species considered migrants along the Natchez Trace Parkway route. Peak migration months are March, April, September and October. There were no surveys conducted during those months. When those fifty species are deleted from the list, the efficiency quotient for all three methodologies combined jumps up to a more respectable 87%, an exceptional indication of the makeup of breeding and winter species richness on the Parkway.

Breeding Bird Surveys (BBS)

The Breeding Bird Survey, as a form of point count sampling, has been the subject of extensive evaluation since its inception in 1966. This methodology provides for bird species occurrence data in a systematic manner which lends itself to mapping and modeling of species distributions over extended study areas and time. This is especially true when the bird species themselves have widespread distributions over these same areas such as is the case with the Natchez Trace Parkway.

While BBS data is generally very comparable from a year to year basis because of standardization of stops, approximate date of survey and count time, there exists several biases in the protocol. If, for example, a survey is carried out in an area particularly attractive to a given species, abundance estimates for the entire region could be overestimated. Since this type of survey is generally run but once a year, weather on a given day could influence the results. The survey design itself can introduce bias because it surveys strictly along roads and the effect of roads and the "edge" effect on bird dispersal can bias data. Time of counts may also introduce bias. While counts start a half hour before sunrise, nocturnal birds would be underestimated at count points surveyed after sunrise.

Breeding Bird Surveys produced ten species for this inventory, not located by the other two methods. They include Bachman's Sparrow, Black-billed Cuckoo, Bobolink, Common Nighthawk, Eastern Screech Owl, Grasshopper Sparrow, House Sparrow, Loggerhead Shrike, Red-breasted Nuthatch, and Royal Tern. Eight of the ten species primarily utilize fields and affiliated woodland edge habitats, further illustrating the "edge" bias of this technique.

The BBS transect data is of great use as a baseline for comparing future trends, if similar methods are adopted for monitoring avian populations in the future.

Southeastern Point Count (SEPTCT)

Point count surveys serving as the basis for SEPTCT sampling have also been extensively evaluated as an inventory methodology. This survey method also provides for the sampling of bird species occurrence data in a systematic manner as in the BBS. Stratification of the sample points through the various physiographic regions and habitats assisted in minimizing potential bias introduced by variable detection probabilities between species and allowed for the improved detection of habitat specialist species which could be otherwise missed or under reported. Weather on any given day could also introduce bias to an inventory utilizing this method. Distortions due to topographical features can also create bias in these surveys. Time of counts may also introduce bias. While counts start a half hour before sunrise, nocturnal birds would be underestimated at count points surveyed after sunrise.

These point count surveys accounted for a total of twenty one species which the other two methodologies did not pick up. These are American White Pelican, Brown Creeper, Blue-winged Warbler, Cedar Waxwing, Fulvous Whistling Duck, Herring Gull, Hermit Thrush, House Wren, Yellow-rumped (Myrtle) Warbler, Pine Siskin, Ruby-crowned Kinglet, Rusty Blackbird, Savannah Sparrow, Dark-eyed (Slate-colored) Junco, Snowy Egret, Song Sparrow, Sharp-shinned Hawk, White-crowned Sparrow, White-throated Sparrow, Winter Wren, and Yellow-bellied Sapsucker. Of these, 15 species were located solely on the November surveys. No BBS type surveys were run for winter birds. The other six species were all habitat specialists and picking up habitat specialists was the purpose for implementing this methodology.

The SEPTCT data is also of great value as a baseline for comparing future trends, if similar methods are used for monitoring avian populations in the future.

Road Counts for Raptors (RC)

Due to the narrow, linear nature of the Natchez Trace Parkway this methodology was incorporated into this inventory to offset under reporting of these species due to three principal factors; (1) the complexity and reduced effective visual distance afforded observers by the vegetation in the area, (2) the edge effect dense multistory vegetation occurring at the edges of woodlands fronting the Parkway motor road and (3) the extensive daily range and large scale mobility of some raptor species whereby their presence and detectability within the Parkway boundaries is erratic and transient.

Biases include the fact that only diurnal raptors will be inventoried utilizing this method and the RC approach does not provide survey data with the same statistical soundness and comparability as either of the point count methods.

Only one species was found only utilizing this technique, the American Kestrel.

While we do not recommend this strategy as a monitoring devise, the data collected through use of this methodology is usable for analysis of geographic distribution of the species located on the transects.

Section V Analysis of Species Richness and Relative Abundance

The following tables and text and Appendix B of this report analyze the species richness and relative abundance of the avifauna found on the Natchez Trace Parkway in four contexts; parkwide, ecosystem province level, physiographic region level and at the habitat level. The numbers in the tables reflect the relative abundance of that species compared to other species within that assemblage. This number is acquired by dividing the number of individuals found by the number of sampling points located within that geographic area or habitat (Jones, 1988).

Table 2 Species Richness and Relative Abundance Parkwide

Species	Alpha Code	Relative Abundance Factor
American White Pelican	AWPE	0.317
Double-crested Cormorant	DCCO	0.110
Yellow-crowned Night Heron	YCNH	0.005
Green Heron (Green-backed Heron)	GNBH	0.003
Little Blue Heron	LBHE	0.006
Cattle Egret	CAEG	0.030
Snowy Egret	SNEG	0.064
Great Egret	GREG	0.041
Great Blue Heron	GTBH	0.081
Canada Goose	CAGO	0.232
Fulvous Whistling Duck	FUWD	0.001
Wood Duck	WODU	0.026
Mallard	MALL	0.015
Turkey Vulture	TUVU	0.430
Black Vulture	BLVU	0.160
Mississippi Kite	MIKI	0.014
Sharp-shinned Hawk	SSHA	0.003
Cooper's Hawk	COHA	0.028
Broad-winged Hawk	BWHA	0.030
Red-shouldered Hawk	RSHA	0.038
Red-tailed Hawk	RTHA	0.089
American Kestrel	AMKE	0.002
Wild Turkey	WITU	0.053
Northern Bobwhite	NOBO	0.160
Killdeer	KILL	0.095
American Woodcock	AMWO	0.004
Herring Gull	HERG	0.004
Royal Tern	ROYT	0.001
Rock Dove	RODO	0.012
Mourning Dove	MODO	0.617
Yellow-billed Cuckoo	YBCU	0.107

Table 2 Species Richness and Relative Abundance Parkwide (Continued)

Species	Alpha Code	Relative Abundance Factor
Black-billed Cuckoo	BBCU	0.001
Great Horned Owl	GHOW	0.014
Barred Owl	BAOW	0.021
Eastern Screech Owl	EASO	0.001
Common Nighthawk	CONI	0.001
Chuck-wills-widow	CWWI	0.021
Whip-poor-will	WPWI	0.051
Chimney Swift	CHSW	0.073
Ruby-throated Hummingbird	RTHU	0.007
Belted Kingfisher	BEKI	0.015
Red-headed Woodpecker	RHWO	0.187
Red-bellied Woodpecker	RBWO	1.651
Northern (Yellow-shafted) Flicker	YSFL	0.271
Yellow-bellied Sapsucker	YBSA	0.033
Downy Woodpecker	DOWO	0.045
Hairy Woodpecker	HAWO	0.069
Pileated Woodpecker	PIWO	0.383
Eastern Wood Pewee	EAWP	0.495
Acadian Flycatcher	ACFL	0.034
Eastern Phoebe	EAPH	0.115
Great-crested Flycatcher	GCFL	0.141
Eastern Kingbird	EAKI	0.076
Loggerhead Shrike	LOSH	0.001
White-eyed Vireo	WEVI	0.157
Yellow-throated Vireo	YTVI	0.254
Red-eyed Vireo	REVI	0.493
Warbling Vireo	WAVI	0.161
Blue Jay	BLJA	2.751
American Crow	AMCR	4.701
Fish Crow	FICR	0.023
Purple Martin	PUMA	0.021
Cliff Swallow	CLSW	0.996
Northern Rough-winged Swallow	NRWS	0.009
Barn Swallow	BARS	0.744
Tufted Titmouse	ETTI	5.292
Carolina Chickadee	CACH	0.778
Brown Creeper	BRCR	0.004
White-breasted Nuthatch	WBNU	0.046
Red-breasted Nuthatch	RBNU	0.002

Table 2 Species Richness and Relative Abundance Parkwide (Continued)

Species	Alpha Code	Relative Abundance Factor
Brown-headed Nuthatch	BHNU	0.017
House Wren	HOWR	0.001
Winter Wren	WIWR	0.008
Carolina Wren	CARW	0.274
Bewick's Wren	BEWR	0.017
Golden-crowned Kinglet	GCKI	0.014
Ruby-crowned Kinglet	RCKI	0.002
Blue-gray Gnatcatcher	BGGN	0.181
Eastern Bluebird	EABL	0.130
Wood Thrush	WOTH	0.182
Hermit Thrush	HETH	0.024
American Robin	AMRO	0.696
Gray Catbird	GRCA	0.037
Northern Mockingbird	NOMO	0.474
Brown Thrasher	BRTH	0.018
European Starling	EUST	0.004
Cedar Waxwing	CEDW	0.041
Prothonotary Warbler	PROW	0.027
Blue-winged Warbler	BWWA	0.012
Northern Parula	NOPA	0.025
Yellow-rumped (Myrtle) Warbler	MYWA	0.013
Black and White Warbler	BAWW	0.021
Cerulean Warbler	CERW	0.004
Yellow-throated Warbler	YTWA	0.050
Prairie Warbler	PRAW	0.048
Pine Warbler	PIWA	0.354
Yellow Warbler	YWAR	0.005
Kentucky Warbler	KEWA	0.075
Hooded Warbler	HOWA	0.250
Worm-eating Warbler	WEWA	0.100
Swainson's Warbler	SWWA	0.087
Louisiana Waterthrush	LOWA	0.015
Common Yellowthroat	COYE	0.429
Yellow-breasted Chat	YBCH	0.081
American Redstart	AMRE	0.023
Summer Tanager	SUTA	0.295
Scarlet Tanager	SCTA	0.032
Eastern (Rufous-sided) Towhee	RSTO	0.218
Bachman's Sparrow	BACS	0.005

Table 2 Species Richness and Relative Abundance Parkwide (Continued)

Species	Alpha Code	Relative Abundance Factor
Field Sparrow	FISP	0.166
Chipping Sparrow	CHSP	0.409
Grasshopper Sparrow	GRSP	0.001
Savannah Sparrow	SAVS	0.172
Song Sparrow	SOSP	0.017
White-throated Sparrow	WTSP	0.017
White-crowned Sparrow	WCSP	0.078
Dark-eyed (Slate-colored) Junco	SCJU	0.001
Northern Cardinal	NOCA	1.358
Dickcissel	DICK	0.021
Blue Grosbeak	BLGR	0.071
Indigo Bunting	INBU	1.205
Painted Bunting	PABU	0.015
Bobolink	BOBO	0.049
Eastern Meadowlark	EAME	0.434
Red-winged Blackbird	RWBL	0.572
Common Grackle	COGR	0.081
Rusty Blackbird	RUBL	0.001
Brown-headed Cowbird	BHCO	0.468
Orchard Oriole	OROR	0.012
Baltimore (Northern) Oriole	BAOR	0.051
House Finch	HOFI	0.071
Pine Siskin	PISI	0.014
American Goldfinch	AMGO	0.302
House Sparrow	HOSP	0.003

Table 3 Species Richness Analysis

<u>Level of Analysis</u>	<u>No. of Species</u> BBS/SEPTCT/RC
Parkwide	134 (113 / 122 / 8)
Ecosystem Province	
Lower Mississippi Riverine Forest Province	79
Outer Coastal Plain Mixed Forest Province	94
Southeastern Mixed Forest Province	122
Eastern Broadleaf Forest (Continental) Province	111

Table 3 Species Richness Analysis (Continued)

<u>Level of Analysis</u>	<u>Number of Species</u>
Physiographic Region	
Mississippi Alluvial Plain	64 / 69 / 5
Loess Hills	78 / 77 / 5
Long Leaf Pine Hills	62 / 75 / 5
Jackson Prairie	54 / 53 / 2
North Central Mississippi Hills	87 / 90 / 7
Flatwoods	41 / 40 / 4
Black Prairie	68 / 73 / 7
Pontotoc Hills	54 / 52 / 4
Fall Line Hills	76 / 87 / 7
Tennessee Valley	48 / 48 / 3
West Tennessee Plain	82 / 90 / 6
Nashville Basin	65 / 72 / 5
General Habitat	
Stream	60
Lake	63
Swamp	46
Riparian Woodland	80
Bottomland Hardwood Woodland	65
Upland Hardwood Woodland	93
Upland Pine Woodland	71
Mixed Hardwood-Pine Woodland	74
Red Cedar Woodland	38
Fallow Agricultural Field	90
Active Agricultural Field	65

As Tables 2 and 3 indicate, 134 bird species were located on the Natchez Trace Parkway during 1999-2000. Species richness in the various ecosystem provinces and physiographic regions seem to reflect a correlation between the number of species found and the number of miles (and thus the number of sampling points) each unit traverses the Parkway. Species richness in the various habitats also reflected a correlation between the number of species found and the number of sampling points within that habitat.

Tables reflecting the species found and their relative abundance within the various ecosystem provinces, physiographic regions and habitats may be found in Appendix B of this report. The ten birds showing the highest abundance factors within each of the ecosystem provinces, physiographic regions and habitats are listed below in order of ranking. See Table C-1 in Appendix C for an alphabetized list of species and affiliated alpha codes.

Table 4 Ten Most Abundant Bird Species Parkwide

Ranking	Total Parkwide	Breeding Bird Survey	S.E. Point Counts	Road Counts for Raptors
1	ETTI	ETTI	ETTI	TUVU
2	AMCR	AMCR	AMCR	BLVU
3	BLJA	BLJA	BLJA	RTHA
4	RBWO	INBU	RBWO	RSHA
5	NOCA	NOCA	NOCA	BWHA
6	INBU	RBWO	CACH	COHA
7	CLSW	CLSW	INBU	MIKI
8	RWBL	BARS	CLSW	AMKE
9	CACH	RWBL	RWBL	-
10	BARS	MODO	AMRO	-

Table 5 Ten Most Abundant Bird Species in the Four Ecosystem Provinces

Ranking	Lower Mississippi Riverine Forest Province	Outer Coastal Plain Mixed Forest Province	Southeastern Mixed Forest Province	Eastern Broadleaf Forest (Continental) Province
1	ETTI	AMCR	ETTI	AMCR
2	AMCR	ETTI	AMCR	ETTI
3	RBWO	NOCA	BLJA	BLJA
4	BLJA	RBWO	RBWO	CLSW
5	CACH	CACH	NOCA	INBU
6	NOCA	RWBL	INBU	RBWO
7	INBU	BLJA	BARS	NOCA
8	BLVU	BARS	RWBL	AMRO
9	REVI	INBU	CACH	EAWP
10	HOWA	BHCO	AMRO	NOMO

Table six below gives the ten most abundant species located in the twelve physiographic regions of the Natchez Trace Parkway. In keeping with the scope of work of this project, these are divided down by Breeding Bird Survey and Southeastern Point Count information.

Table 6 Ten Most Abundant Bird Species in the Twelve Physiographic Regions

Ranking	Mississippi Alluvial Plain BBS	Mississippi Alluvial Plain SEPTCT	Loess Hills BBS	Loess Hills SEPTCT
1	ETTI	ETTI	AMCR	AMCR
2	AMCR	AMCR	ETTI	ETTI
3	BLJA	RBWO	NOCA	RBWO
4	CACH	BLJA	RBWO	BLJA
5	RBWO	CACH	CACH	NOCA
6	NOCA	NOCA	RWBL	CACH
7	INBU	INBU	BLJA	INBU
8	REVI	AMGO	BARS	PIWO
9	HOWA	REVI	INBU	AMRO
10	PIWA	AMRO	BHCO	HOWA

Ranking	Long Leaf Pine Hills BBS	Long Leaf Pine Hills SEPTCT	Jackson Prairie BBS	Jackson Prairie SEPTCT
1	ETTI	ETTI	BLJA	AWPE
2	AMCR	AMCR	AMCR	CAGO
3	BLJA	RWBL	ETTI	DCCO
4	NOCA	BLJA	NOCA	ETTI
5	RWBL	RBWO	BHCO	BLJA
6	INBU	NOCA	CHSP	AMCR
7	BARS	CACH	CACH	NOCA
8	RBWO	MODO	CAGO	CACH
9	MODO	INBU	RBWO	RBWO
10	BLVU	BARS	COGR	CARW

Ranking	North Central Mississippi Hills BBS	North Central Mississippi Hills SEPTCT	Flatwoods BBS	Flatwoods SEPTCT
1	AMCR	AMCR	AMCR	ETTI
2	ETTI	ETTI	BLJA	AMCR
3	BLJA	BLJA	ETTI	BLJA
4	RBWO	RBWO	BARS	RBWO
5	BARS	AMRO	TUVU	NOCA
6	NOCA	CACH	BHCO	INBU
7	INBU	NOCA	INBU / EAWP	CARW

Ranking	North Central Mississippi Hills BBS	North Central Mississippi Hills SEPTCT	Flatwoods BBS	Flatwoods SEPTCT
8	PIWA	INBU	EABL	AMRO
9	CHSP	YSFL	YSFL / WEVI	MODO
10	CACH / MODO	PIWO	SUTA	TUVU

Ranking	Black Prairie BBS	Black Prairie SEPTCT	Pontotoc Hills BBS	Pontotoc Hills SEPTCT
1	ETTI	ETTI	ETTI	ETTI
2	BLJA	BLJA	BLJA	BLJA
3	AMCR	AMCR	AMCR	AMCR
4	RWBL	NOCA	BARS	RBWO
5	BARS	RBWO	INBU	NOCA
6	NOCA	CACH	NOCA	BARS
7	INBU	INBU	RBWO	INBU
8	EAME	BARS	RWBL	CACH
9	RBWO	RWBL	CHSP	AMRO
10	BHCO	AMRO	COYE / TUVU	CARW

Ranking	Fall Line Hills BBS	Fall Line Hills SEPTCT	Tennessee Valley BBS	Tennessee Valley SEPTCT
1	ETTI	AMCR	ETTI	AMCR
2	AMCR	ETTI	AMCR	ETTI
3	BLJA	BLJA	BLJA	BLJA
4	INBU	CLSW	INBU	NOCA
5	MODO	RBWO	RWBL	REVI
6	BARS	RWBL	EAME	RBWO
7	RBWO	NOCA	BARS	BARS
8	NOCA	INBU	MODO	INBU
9	RWBL	CACH	CHSP	EAME
10	REVI	COYE	NOCA	CACH / AMRO

Ranking	West Tennessee Plain BBS	West Tennessee Plain SEPTCT	Nashville Basin BBS	Nashville Basin SEPTCT
1	ETTI	ETTI	ETTI	ETTI
2	CLSW	AMCR	AMCR	AMCR

Ranking	West Tennessee Plain BBS	West Tennessee Plain SEPTCT	Nashville Basin BBS	Nashville Basin SEPTCT
3	BLJA	CLSW	BLJA	BLJA
4	AMCR	BLJA	INBU	RBWO
5	INBU	RBWO	NOCA	NOCA
6	NOCA	INBU	BHCO	EAME
7	AMRO	NOCA	FISP	AMGO
8	MODO	CACH	EAWP	INBU
9	EAWP	AMRO	AMGO	EAWP
10	RBWO	MODO / EWPE	RBWO	CACH

Table 7 Ten Most Abundant Bird Species in the Eleven General Habitats

Ranking	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species
1	ETTI	CLSW	ETTI	ETTI
2	AMCR	AMWP	AMCR	AMCR
3	BLJA	CAGO	BLJA	BLJA
4	NOCA	DCCO	NOCA	NOCA
5	CACH	AMCR	RBWO	RBWO
6	RBWO	RWBL	GREG	CACH
7	CAGO	BLJA	GTBH	AMRO
8	CARW	ETTI	CACH	INBU
9	INBU	NOCA	PIWO	CLSW
10	PIWO	BARS	AMRO	PIWO

Ranking	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species
1	ETTI	ETTI	ETTI	ETTI
2	AMCR	AMCR	AMCR	AMCR
3	BLJA	BLJA	BLJA	BLJA
4	RBWO	RBWO	RBWO	RBWO
5	CACH	NOCA	CACH	CACH
6	NOCA	AMRO	NOCA	NOCA
7	AMRO	CACH	INBU	PIWA
8	YSFL	REVI	PIWA	INBU

Ranking	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species
9	SUTA	INBU	PIWO	REVI
10	REVI	EAWP	EAWP	YSFL

Ranking	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
1	AMCR	AMCR	AMCR
2	BLJA	ETTI	ETTI
3	ETTI	BLJA	BLJA
4	INBU	INBU	INBU
5	CACH	BARS	BARS
6	NOCA	EAME	NOCA
7	RSTO	RBWO	RWBL
8	AMRO	NOCA	RBWO
9	RBWO	RWBL	KILL
10	CARW	COYE	EAME

Section VI Threatened and Endangered Species and Species of Concern

The Natchez Trace Parkway transverses portions of the states of Mississippi, Alabama and Tennessee. The federal Endangered Species Act (ESA) lists four species with ranges in those three states. These include the Mississippi Sandhill Crane, Wood Stork, Least Tern and the Red-cockaded Woodpecker. Of these four species, three could potentially be found along the route of the Natchez Trace Parkway. The Wood Stork could potentially be found during post breeding dispersal during the fall and winter in all three states. The Least Tern could potentially occur along major rivers and large streams in the southern Mississippi portions of the Parkway, primarily during spring and fall migrations. The Red-cockaded Woodpecker has historically occurred on the Parkway in the vicinity of Jackson, Mississippi and could potentially be found in suitable habitat in any of the three states, however, with regards to the Parkway, they are known to occur only in suitable long-leaf pine habitats in southern Mississippi, not along the Parkway in Alabama or Tennessee. No individuals of any of these species were located during the inventory surveys. No Federally listed threatened or endangered bird species were identified during this inventory.

In addition to the ESA listed species, each state also lists species as monitored, protected or as species in need of management within each individual state. These species are discussed below with discussion regarding the findings of these inventory surveys relating to the listed species.

Tennessee lists the following species:

Endangered

Peregrine Falcon
Interior Least Tern
Red-cockaded Woodpecker
Bachman's Sparrow

Threatened

Bald Eagle
Golden Eagle
Osprey
Common Raven

Wildlife in Need of Management

Cooper's Hawk	Olive-sided Flycatcher	Least Bittern
Sharp-shinned Hawk	Little Blue Heron	Swainson's Warbler
Northern Saw Whet Owl	Snowy Egret	Double Crested Cormorant
Grasshopper Sparrow	Sandhill Crane	Vesper Sparrow
Anhinga	Mississippi Kite	King Rail
Great Egret	Northern Harrier	Yellow-bellied Sapsucker
American Barn Owl		

Of these listed species, fifteen include the Tennessee portions of the Natchez Trace Parkway in their normal distribution during some portion of the year. These are the Peregrine Falcon, Red-cockaded Woodpecker, Bachman's Sparrow, Bald Eagle, Golden Eagle, Cooper's Hawk, Sharp-shinned Hawk, Grasshopper Sparrow, American Barn Owl, Northern Harrier, Least Bittern, Swainson's Warbler, Double-crested Cormorant, Vesper Sparrow, and Yellow-bellied Sapsucker. Of the state endangered species, one male Bachman's Sparrow was heard singing from a shrub top at milepost 354.5. This individual was the only specimen of any of the four species found during this inventory. No individuals of any threatened species were noted. Six individuals comprising three species of species in need of management were located. Cooper's Hawks were seen at mileposts 353.7 and 433.3. Both specimens were seen flying through open areas between two wooded hillsides. A Sharp-shinned Hawk was noted foraging near milepost 414.0 during winter point counts and Yellow-bellied Sapsuckers were noted at mileposts 357.0, 361.0 and 431.2 during winter point count surveys. Grasshopper Sparrows, Great and Snowy Egrets, Little Blue Herons, Mississippi Kites, Swainson's Warblers, and Double-crested Cormorants were identified during the surveys, but, all sightings were in Mississippi or Alabama where they are not listed.

Mississippi lists the following species as **endangered**:

Brown Pelican	Piping Plover
Wood Stork	Least Tern
Bald Eagle	Red-cockaded Woodpecker
Peregrine Falcon	Ivory-billed Woodpecker
Mississippi Sandhill Crane	Bewick's Wren
Snowy Plover	Bachman's Warbler

While adequate habitat exists for all of these species except the Brown Pelican and Ivory-billed Woodpecker along the Natchez Trace Parkway in Mississippi, the rest of the species should occur only as migrants or late winter dispersals. During the inventory surveys only the Bewick's Wren was observed in the Mississippi portions of the Parkway. Please see Section VIII below for more details on these observations.

Alabama was non-responsive when asked to identify state listed species.

As important as state or federal listing is the priority listing of birds by Partners in Flight, the collective energy of more than 150 governmental agencies and private organizations committed to conserving birds and their habitats across the Western Hemisphere. This organization has divided the United States and Canada into some ninety physiographic areas and has developed conservation plans for the various areas and listings of highest priority and high priority birds in each area. Physiographic Area # 4 contains the areas transversed by the Natchez Trace Parkway in Mississippi and Alabama, while Physiographic Area # 14 covers the area of the Parkway in the state of Tennessee. Partners in Flight lists twelve species as having highest overall priority in Area # 4. Of these, three species (Bachman's Sparrow, Bewick's Wren and Swainson's Warbler) were located in that area during these inventory surveys. Of forty species listed as high overall priority, fourteen were identified in the area during the surveys. They include the Brown-headed Nuthatch, Cerulean Warbler, Prothonotary Warbler, Chuck-wills-widow, Prairie Warbler, Worm-eating Warbler, Blue-winged Warbler, Kentucky Warbler, Orchard Oriole, Northern Bobwhite, Yellow-billed Cuckoo, Red-headed Woodpecker, Bobolink and American Woodcock.

In Area # 14 these surveys did even better locating both of the highest overall priority species (Bewick's Wren and Cerulean Warbler) and thirteen of eighteen species contained on the high priority list. These include Bachman's sparrow, Blue-winged Warbler, Prairie Warbler, Worm-eating Warbler, Louisiana Waterthrush, Whip-poor-will, Wood thrush, Prothonotary Warbler, Kentucky Warbler, Yellow-billed Cuckoo, Eastern Wood Pewee, Field Sparrow and Red-headed Woodpecker.

Because species listed by the Partners in Flight are listed due to recent decreases in population within the various areas listed, it may be assumed that habitats within the Natchez Trace Parkway are faring better than similar habitats found elsewhere within these two areas. We base this statement on the fact that the Parkway lands support viable populations of the above mentioned species.

Section VII Anecdotal Observation Records

Anecdotal observations are those observations made by other people, outside the study, which may or may not be verified as to the true species observed. The usefulness of this type of data is limited and depends, to a great extent, on the experience of the observer. One hundred eighty nine species are listed on the Observation Database bird list for the Natchez Trace Parkway. The observers in these cases are unknown to the researchers on this project and thus the reliability of the observations would be in question. Fifty one species appear on the database

which did not occur on the Parkway during the inventory surveys for this project. They are listed below:

American Bittern	Shoveler	Black-throated Green warbler
American Black Duck	Bald Eagle	Blackburnian Warbler
American Widgeon	White-fronted Goose	Chestnut-sided Warbler
Blue-winged Teal	American Pipit	Blackpoll Warbler
Canvasback	Rose-breasted Grosbeak	Palm Warbler
Common Goldeneye	Solitary Sandpiper	Ovenbird
Common Snipe	Lesser Yellowlegs	Northern Waterthrush
Golden Eagle	Greater Yellowlegs	Purple Finch
Hooded Merganser	Spotted Sandpiper	Vesper Sparrow
Least Bittern	Barn Owl	Swamp Sparrow
Lesser Scaup	Red-cockaded Woodpecker	Fox Sparrow
Northern Harrier	Least Flycatcher	Black Tern
Northern Pintail	Veery	Osprey
Pied-billed Grebe	Tennessee Warbler	Snow Goose
Redhead	Magnolia Warbler	Nashville Warbler
Ring-necked Duck	Cape May Warbler	Swainson's Thrush
Ring-necked Pheasant	Bufflehead	

Over 98% of the individual sightings of these species occurred between mid November and the end of April. No surveys were conducted during this time period in conjunction with this inventory survey. Had they been conducted, many of these species and possibly more may have been added to our inventory list. Suitable habitat exists on Parkway lands for all of these species and all include, at least, some of the Parkway in their normal range of distribution at some point during the year.

Three species on the list were discounted by these researchers because they are the product of aviculture and were most likely introduced to the wild by accident or on purpose. These species are Military Macaw, Silver Pheasant and Mute Swan. Two other species are discounted because of the distance they occurred from their normal range; Sprague's Pipit and Short-tailed Hawk. The closest normal range for the pipit is in southwestern Louisiana, while the hawk normally gets no closer than peninsular Florida. There is a remote possibility that these sightings were correct because, in the words of Rick Wilt, NPS biologist, "Birds are where you find them." They are a very mobile group.

Section VIII Species Observed Outside of Their Normal Range

Individual specimens of two species were noticeably located in areas appearing to be outside of their normal ranges according to current literature. A pair of Bewick's Wrens were found foraging in low shrubbery near milepost 276.0 in mid May, approximately 100 miles south of their normal breeding range in Tennessee. Individual Bewick's Wrens were found at mileposts 046.8, 074.6, 122.4, 149.0, 286.2 and 299.5 during May point counts in 2000. None were located during 1999 surveys at the same sites. This may indicate a late migration for these individuals and possibly non-nesting status.

A relatively large number of Warbling Vireos were located both years during both point counts and Breeding Bird Surveys in Mississippi, well south of their normal breeding range in middle Tennessee. Twenty two individuals were identified in Mississippi during the two years of surveys. These were most likely late migrants, although many were singing males.

Section IX Species Suspected, But Not Verified by This Inventory

In addition to the taxa listed in Table 2 and Section VII, thirteen additional species were found to include portions of the Natchez Trace Parkway in their range of distribution. Suitable habitat is available for all of these species on Parkway lands, however, none of these species have been verified on the Parkway to date as far as the researchers for this project know. These species are listed below:

Anhinga	Least Tern
Black-crowned Night Heron	American Swallow-tailed Kite
Wood Stork	Willow Flycatcher
Blue-winged Teal	Horned Lark
King Rail	Tree Swallow
Purple Gallinule	Lark Sparrow
American Coot	

Reasons for not finding these species during the inventory would vary. Most would occur only as migrants or during post-breeding dispersals. Had surveys been run during these times, many of these species may have been added to this inventory.

Section X Conservation and Management Recommendations

As is the case with so many kinds of wildlife, birds, especially neotropical migrants, are under great pressure and they are rapidly disappearing from many areas where they were formerly abundant. This is due in the largest part to habitat destruction. Current regulations of the National Park Service protect and manage all native wildlife within the National Park System lands. With this progressive attitude in mind, land managers at the Natchez Trace Parkway should enforce laws relating to killing or harassing of these animals to the highest degree possible.

All wetland areas could be enhanced by planting native grasses around the wetland to control erosion and reduce nutrient inputs into the water. This is a problem along waterways throughout the Parkway, but especially in the southern half. This would enhance habitat for riparian habitat specialists such as Prothonotary Warblers and Louisiana Waterthrushes along the Parkway. To this end chemical pesticides and non-biodegradable herbicides should be avoided, especially within 300 feet of any wetland. They should be used only in conjunction with an established Integrated Pest Management Plan.

While the wetlands along the Parkway appear to be in fair shape, they do not exist alone, but have hydrologic and biologic ties with the surrounding landscape. Vegetative corridors should be provided or maintained where they exist between wetlands and surrounding upland areas. Land managers should encourage natural vegetative diversity in all habitats located along the Natchez Trace Parkway. Maintaining natural vegetative diversity along the entire length of the Parkway should be a primary conservation objective of the land managers.

Fragmentation of bird habitat areas should be avoided whenever possible. If such areas must be cleared or developed, development should be concentrated in one area, preferably adjacent to areas already developed and not spread throughout natural communities. This will minimize edge effects caused by fragmentation. Activities that will interrupt ecosystem processes should be avoided, or an alternative location for the activity should be sought. For example, avoid fragmentation activities that will interrupt the water flow patterns in wetland communities or create barriers between connected habitats used by avian species. Roads and firebreaks that disrupt natural hydrologic and burn patterns in higher quality ecotones that serve as bird habitat should be reduced to the minimum level necessary to accomplish the NPS mission, with remaining ecotones being allowed to recover. Roads that transect ecotones should be stabilized to prevent unnecessary erosion impacts and fire ditches and breaks should be restored to the original grade to restore natural hydrologic patterns.

No ecological benefits are gained by utilizing intensive site preparation activities that cause severe soil disturbance at sites. Therefore, mechanical site preparation activities in susceptible areas should be minimal and restricted to nonmechanical approaches, if possible. Intensive site preparation activities are known to lead to invasion by invasive exotic weedy species, and to exacerbate erosion problems. Instead, regular, frequent prescribed burning should be used to control hardwoods and regenerate native pine forest whenever feasible. In areas that have been fire suppressed, additional methods, such as midstory thinning may be needed.

Visitors and employees at the Natchez Trace Parkway should be encouraged to leave habitats intact. This encouragement could potentially come in the form of bullets or notices on Parkway maps, literature and bulletin boards currently located at a number of pullovers throughout the Parkway. Brief statements prior to or following the Parkway film shown in the Visitors Center in Tupelo could also be utilized. These same sources could also be used to educate visitors and employees on the value of these animals, and to prohibit the harassment of birds and other native wildlife along the Natchez Trace Parkway.

Section XI Acknowledgments

Funding for this project was derived from the operating budget of the National Park Service—Natchez Trace Parkway. Our thanks go to Dale Wilkerson, Gary Mason and Bill Whitworth of that organization who assisted in obtaining information and answering our questions, necessary to the accomplishment of this project. Special thanks also to the many rangers and maintenance personnel of the Parkway who took time from their busy schedules to give us locale information, keys to locked gates on Parkway lands and information regarding anecdotal observations of birds on the Parkway. Special thanks also go to Dr. Jay Raveill and his

crew of graduate students from Central Missouri State University for their assistance in the habitat analysis portion of this study. Without the help of these individuals, this project would not have been possible.

Section XII Literature Cited and References

American Birds. 1998. Ninety-eighth Christmas Bird Count (1997-1998). National Audubon Society, Yorktown Heights, NY. pp. 274-290.

DeGraaf, R. M., et al. 1991. Forest and Rangeland Birds of the United States: Natural History and Habitat Use. US Department of Agriculture, Forest Service Agricultural Handbook 688. 625 pp.

Ford, Bob, et al. 1998. Partners in Flight: The Interior Low Plateaus Bird Conservation Plan (Physiographic Area # 14). Memphis, TN., 55 pp.

Fuller, M.R., and J.A. Mosher. 1986. Raptor survey techniques in Millsap, B.A., and K.W. Kline, eds. Raptor Management Techniques Manual. Vol. 1. National Wildlife Federation. Washington, D.C.

Gandy, B. E. and W. H. Turcotte. 1970. Catalog of Mississippi Bird Records. Jackson, MS. 105 pp.

Hamel, Paul B., et al. 1996. A Land Manager's Guide to Point Counts of Birds in the Southeast. Gen. Tech. Rep. SO-120. New Orleans, LA.

Harper, Mary, et al. 1997. Management of Longleaf Pine Woodlands for Threatened and Endangered Species. USACERL Tech. Rep. 98/21. Champaign, IL. 153 pp.

Hoover, R.L. and D.L. Wills. 1984. Managing Forested Lands for Wildlife. Denver, CO. 459 pp.

Leslie, Michele, et al. 1996. Conserving Biodiversity on Military Lands: A Handbook for Natural Resources Managers. The Nature Conservancy, Arlington, VA. 241 pp.

Mississippi Natural Heritage Program. 2000. Endangered Species of Mississippi. Jackson, MS., 2 pp.

National Geographic Society. 1999. Field Guide to the Birds of North America. National Geographic Society. 480 pp.

Ralph, C.J. et al. 1997. Monitoring Bird Populations by Point Counts. Gen. Tech. Rep. PSW-GTR-149. Berkley, CA. 184 pp.

Subject guide 1854 through 1984. Jackson, MS. 50 pp.

US Fish and Wildlife Service. 1999. Summary of Breeding Bird Survey Results 1990-1998. Web page on World Wide Web.

Withers, D. I. May 1997. Tennessee Natural Heritage Program Rare Vertebrates List. Division of Natural Heritage, Tennessee Department of Environment and Conservation, 11 pp.

Woodrey, M. S., et al. 1998. Partners in Flight: East Gulf Coastal Plain Partners in Flight Bird Conservation Plan (Physiographic Area # 04). Memphis, TN., 76 pp.

Prepared by _____ on May 31, 2001.

**Thomas M. Hays-Sr. Biologist
Accipiter Biological Consultants
PO Box 16332
Portal, AZ 85632-1332**

APPENDIX A

DISTRIBUTION MAPS FOR BIRDS OF THE NATCHEZ TRACE PARKWAY

American White Pelican (AWPE)

(*Pelecanus erythrorhynchos*)

Status: Common winter resident.

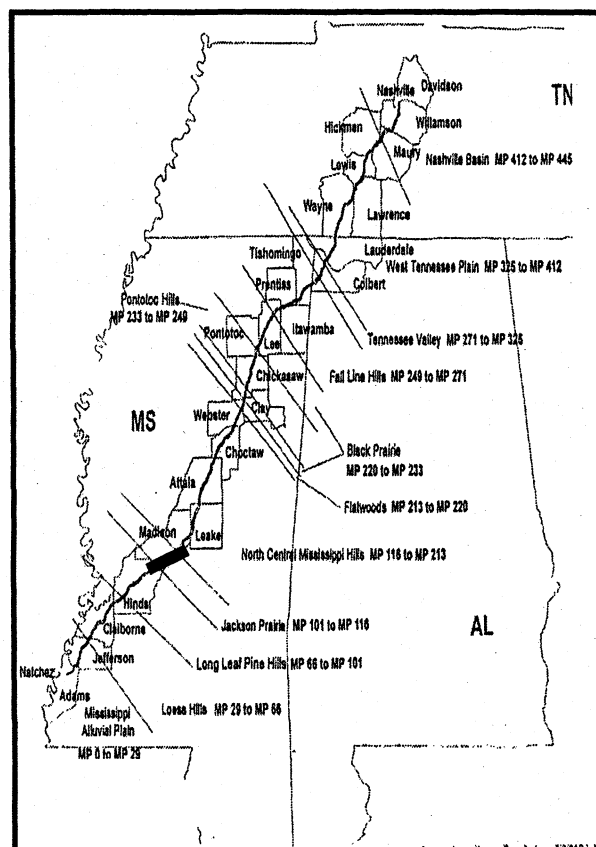
Distribution and Habitat: Large lakes and rivers. Found in numbers wintering on Ross Barnett Reservoir, just north of Jackson, MS.

Special Habitat Requirements: Freshwater habitats isolated from mammalian predators.

Breeding: Nest on the ground in colonies on small, flat islands.

Food Habits: Primarily fish with some crayfish and small salamanders.

Other information: This species winters in large number on Ross Barnett Reservoir and is easily seen from the Parkway motor road.



Double-crested Cormorant (DCCO)

(*Phalacrocorax auritus*)

Status: Common winter resident.

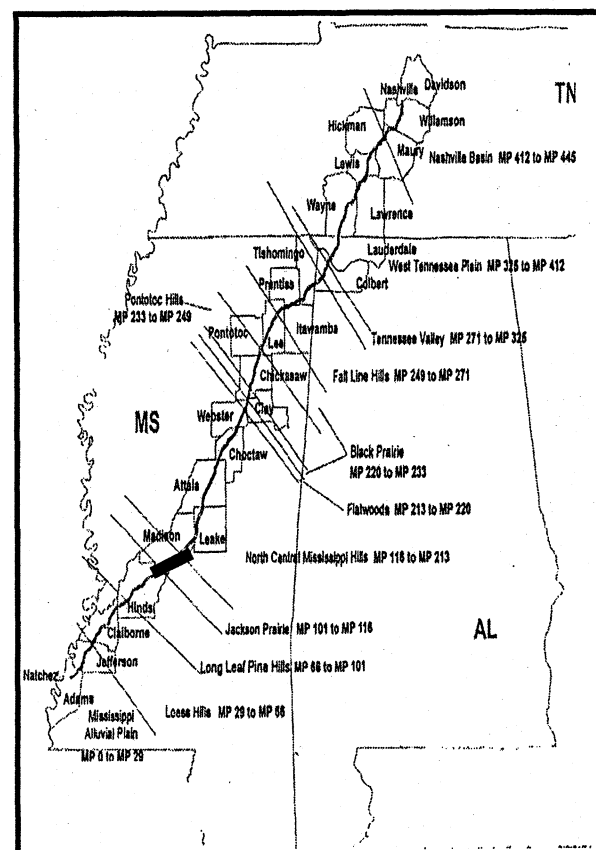
Distribution and Habitat: Large freshwater lakes and rivers. Found in numbers wintering on Ross Barnett Reservoir, just North of Jackson, MS.

Special Habitat Requirements: Convenient, dependable food source within 5-10 miles of roosts.

Breeding: Nests in colonies on rocky islands, cliffs or sometimes trees.

Food Habits: Primarily fish, but also eats salamanders, crustaceans, reptiles and mollusks.

Other information: This species has a preference for perching on trees, rocks and other objects which overhang water.



Yellow-crowned Night Heron (YCNH)

(*Nyctanassa violacea*)

Status: Uncommon summer resident. Should be found throughout the Mississippi portions of the Parkway.

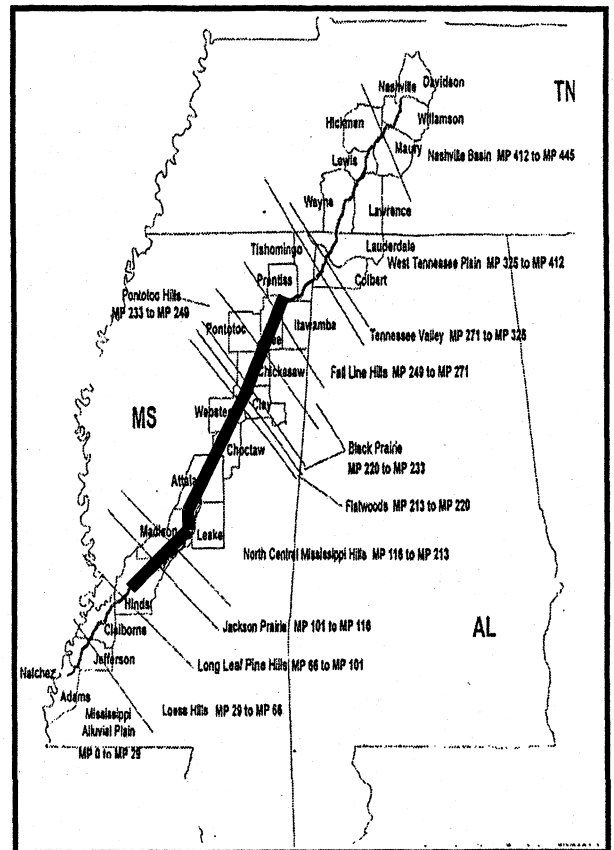
Distribution and Habitat: Inhabits lush river swamps, stagnant backwaters or bayous of large cypress or mangrove swamps throughout the southern 2/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Wooded Swamps.

Breeding: Nests in small colonies, sometimes with other heron species. Nest is in tree or bushes 15-20 feet above the ground.

Food Habits: Feeds largely on crustaceans, mussels, frogs, snails, aquatic insects and small reptiles.

Other information: Can be found roosting in trees in wet woods and swamps.



Green Heron (GNBH)

(*Butorides virescens*)

Status: Uncommon.

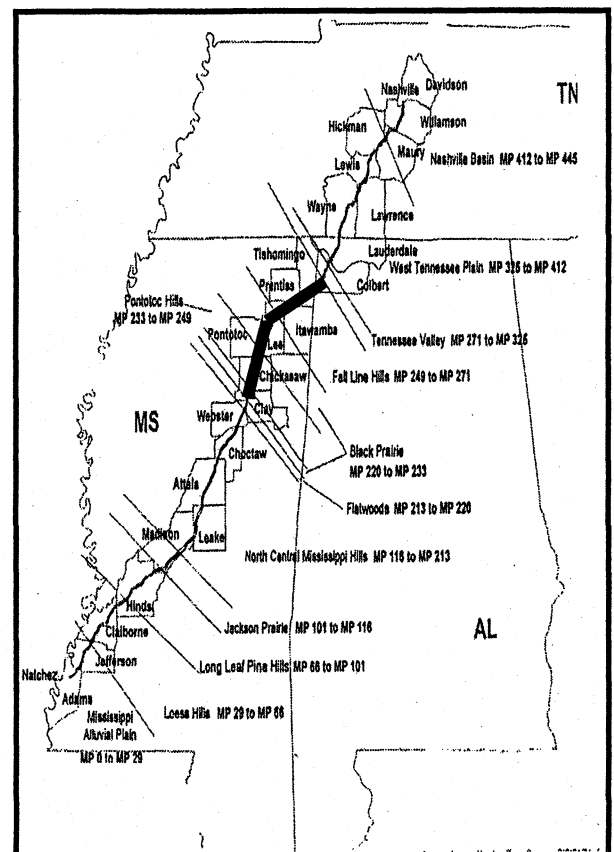
Distribution and Habitat: Found in freshwater habitats, primarily in riparian deciduous situations throughout the Natchez Trace Parkway.

Special Habitat Requirements: Wetlands or open water habitats.

Breeding: Usually a solitary nester, the nest may be in trees away from water or near water 10-30 feet above the ground.

Food Habits: Consumes fish, frogs, crayfish, mollusks, insects and small reptiles.

Other information: Most often seen perching in trees near ponds, streams or marshes.



Little Blue Heron (LBHE)

(*Egretta caerulea*)

Status: Uncommon.

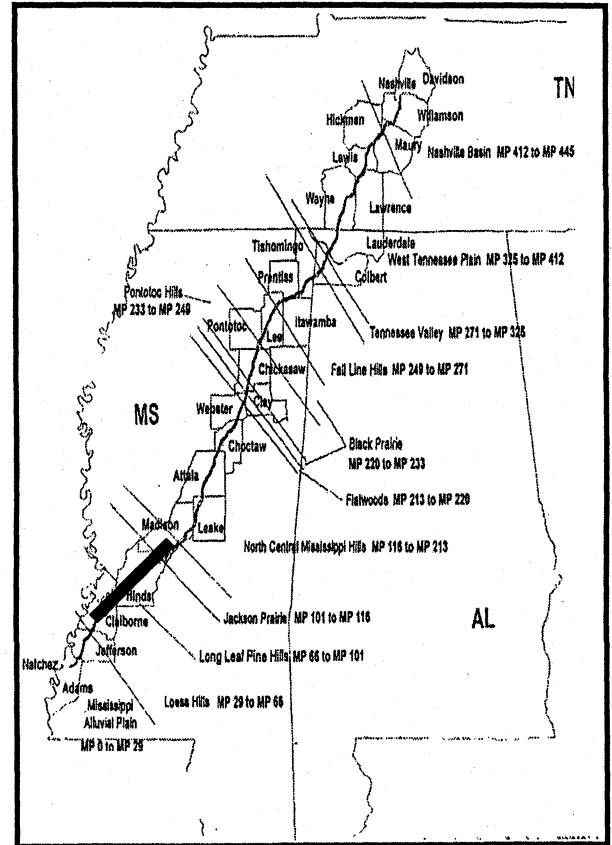
Distribution and Habitat: Found in freshwater pond, and marshy shore of stream habitats in Mississippi portions of the Natchez Trace Parkway.

Special Habitat Requirements: Open water or wetland habitats.

Breeding: Builds a flimsy platform nest, as high as 40 feet in trees. Usually nests in large colonies.

Food Habits: Diet includes fish, frogs, small reptiles, insects, crabs and crayfish.

Other information: Usually seen along shores of larger lakes.



Cattle Egret (CAEG)

(*Bubulcus ibis*)

Status: Common.

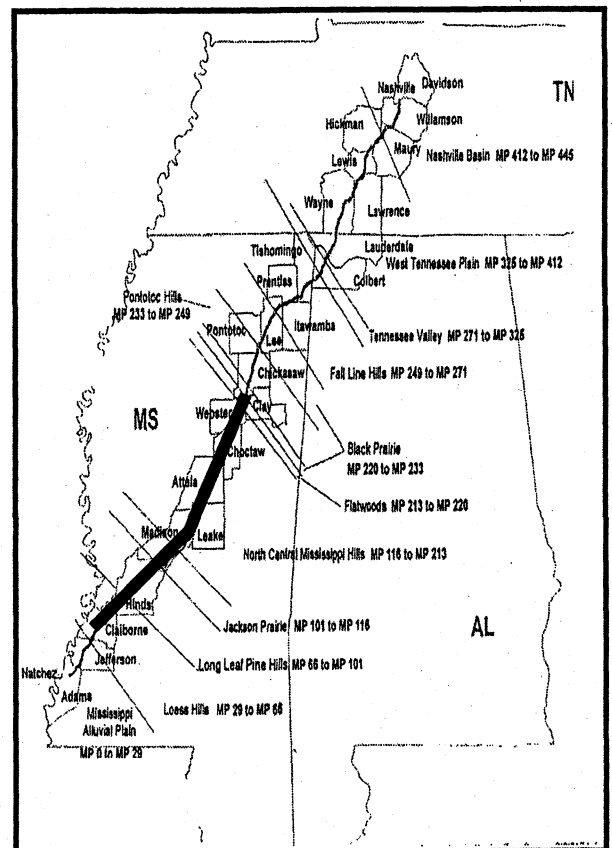
Distribution and Habitat: Frequents marshes, pasturelands, fallow fields and road shoulders throughout the Mississippi portions of the Parkway.

Special Habitat Requirements: Wetlands for nesting.

Breeding: Nests colonially, often with other heron species. Nests are built in trees or bushes 5-30 feet above the ground.

Food Habits: Consumes grasshoppers, frogs, spiders and some toads.

Other information: Often seen associated with cattle along the Parkway.



Snowy Egret (SNEG)

(*Egretta thula*)

Status: Uncommon.

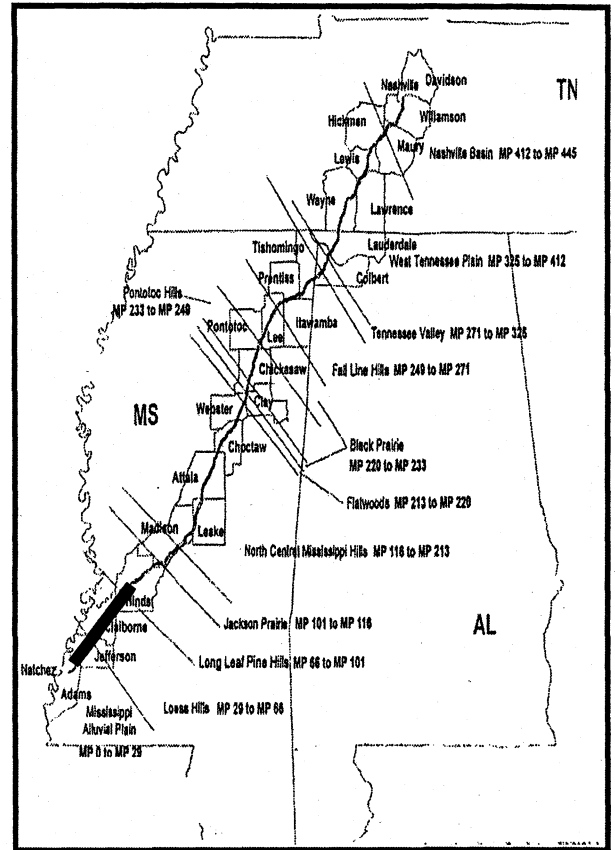
Distribution and Habitat: Inhabits ponds, lakes, marshes and stream courses in the southern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Open water or wetland habitats.

Breeding: Nests in colonies, often with other heron species. Nests up to 30 feet high in trees or shrubs.

Food Habits: Consumes small fish, frogs, small reptiles, shrimp, crayfish and insects.

Other information: Most easily seen from the Parkway road along pond edges and streams.



Great Egret (GREG)

(*Ardea alba*)

Status: Common.

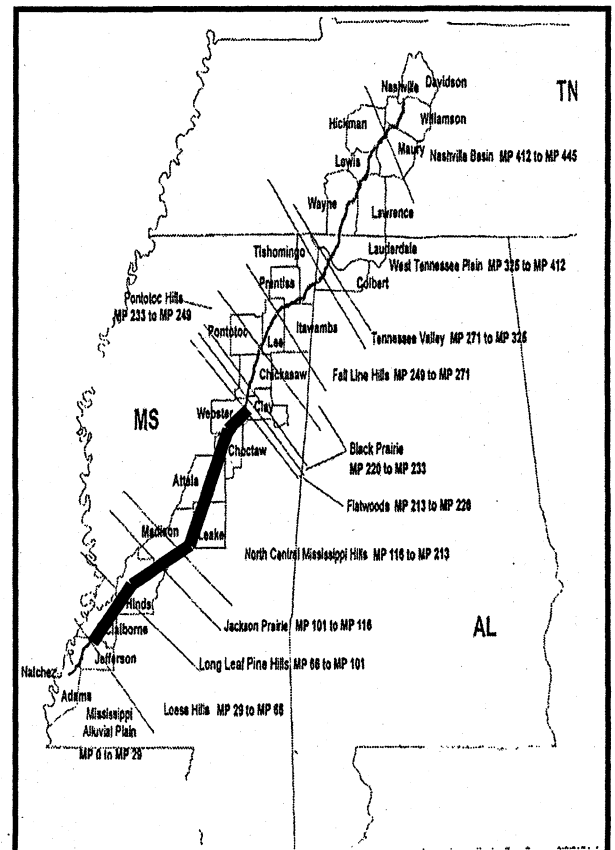
Distribution and Habitat: Inhabits all freshwater habitats in the southern half of the Natchez Trace Parkway.

Special Habitat Requirements: Open water or wetland habitats near woodlands.

Breeding: Nest singly or in colonies, often with other heron species. Nest is usually in woods or thickets near water and from 1-40 feet off of the ground.

Food Habits: Consumes fish, frogs, snails, insects, small reptiles and small mammals.

Other information: Often seen at streamsides along the Parkway.



Great Blue Heron (GTBH)

(*Ardea herodias*)

Status: Common.

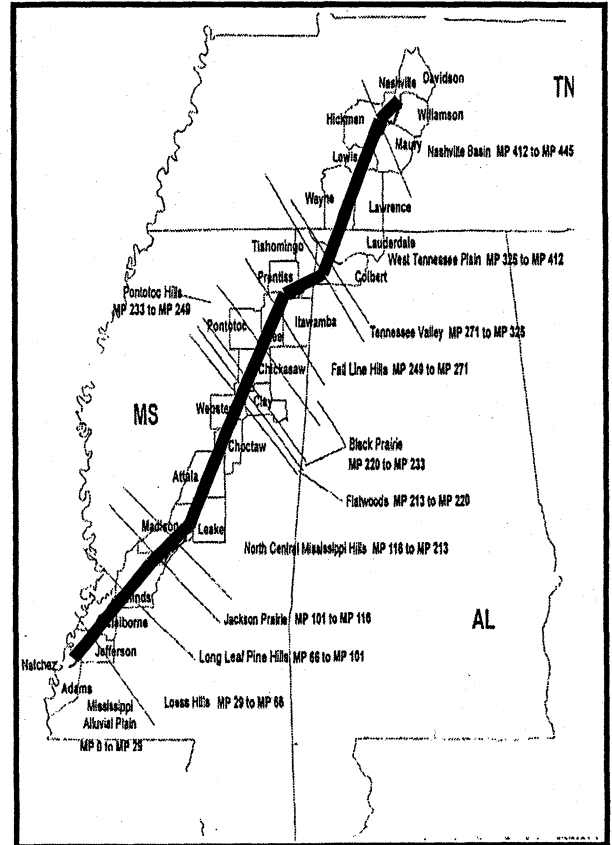
Distribution and Habitat: Inhabits all freshwater habitats along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Requires shallow water and marsh vegetation.

Breeding: Nests in colonies in the tops of living or dead trees up to 50 feet above the ground.

Food Habits: Consumes small fish, amphibians, reptiles, insects, crayfish and small mammals.

Other information: Often seen flying over the Parkway, especially near swamps and marshes.



Canada Goose (CAGO)

(*Branta canadensis*)

Status: Common.

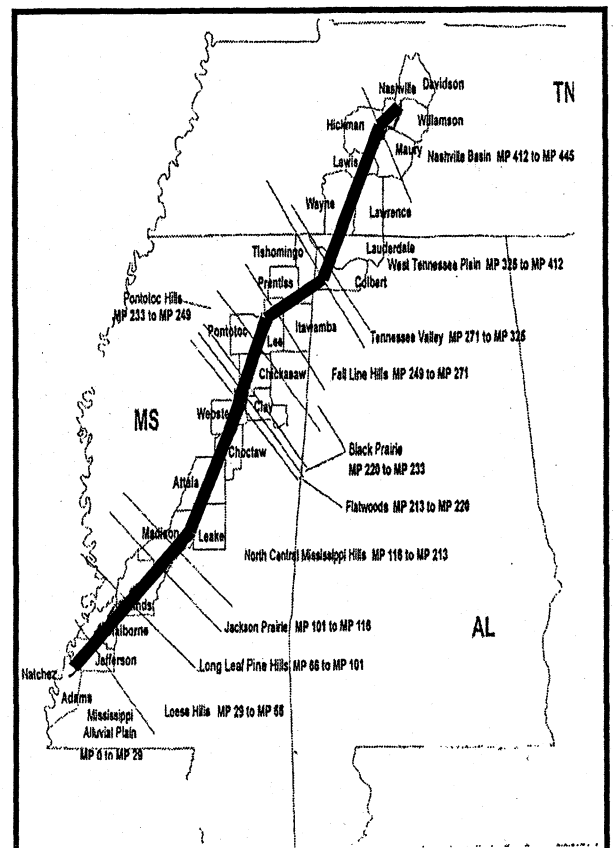
Distribution and Habitat: Found in ponds, lakes and open fields throughout the Natchez Trace Parkway.

Special Habitat Requirements: Elevated habitat feature near water for nesting.

Breeding: Nests on the ground near water on slightly elevated sites such as muskrat houses.

Food Habits: A grazer, preferring grasses, forbs and small amounts of insects, mollusks and small crustaceans.

Other information: Often seen flying over the Parkway and near Ross Barnett Reservoir.



Fulvous Whistling Duck (FWDU)

(*Deirdrocygna bicolor*)

Status: Rare.

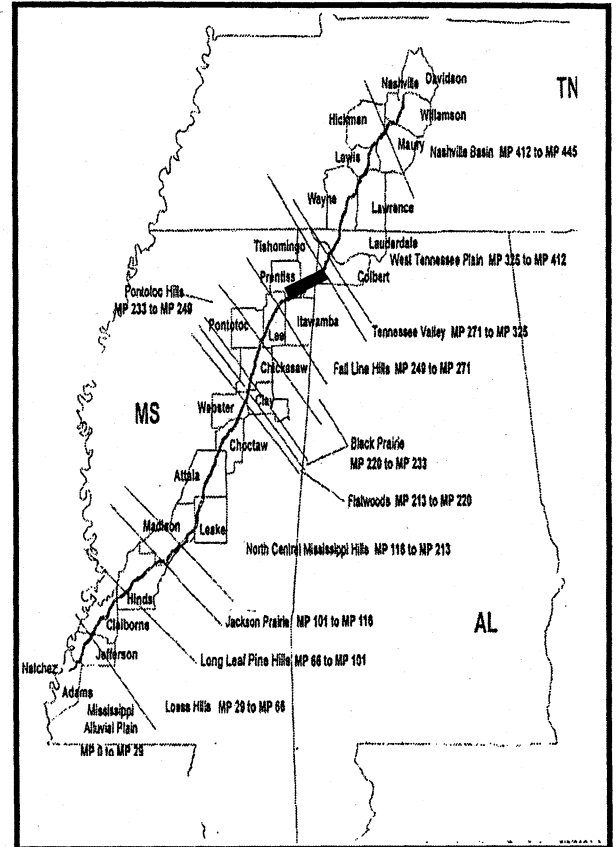
Distribution and Habitat: Inhabits swamps and marshy areas of the southern 2/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Broad, open marshlands.

Breeding: Nests in bulrushes at the edge of swamps and marshes.

Food Habits: Mainly vegetarian, including grasses and their seeds, weeds, rice and aquatic vegetation.

Other information: Hard to find on the Parkway.
The marsh at Tenn-Tom Waterway would be a good place to look.



Wood Duck (WODU)

(*Aix sponsa*)

Status: Common.

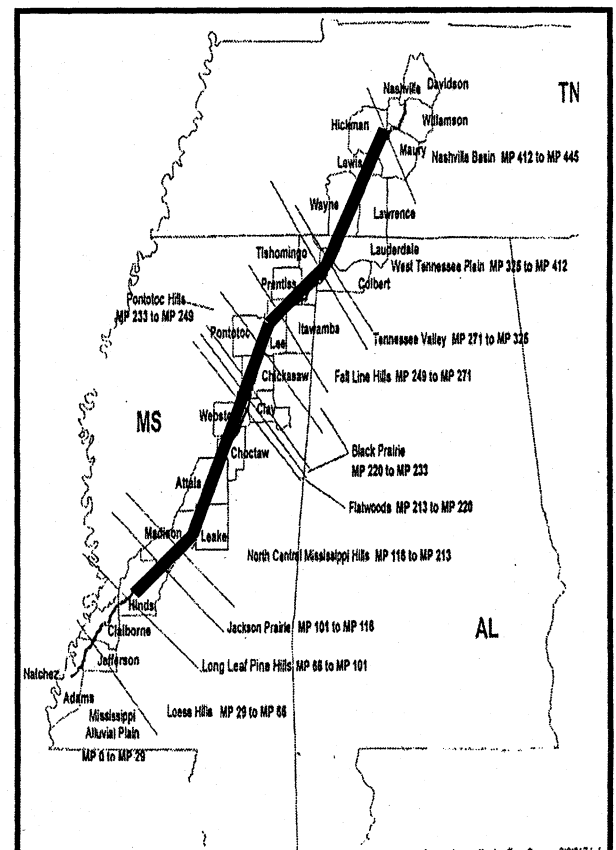
Distribution and Habitat: Inhabits woodlands near shallow lakes, swamps, marshes and streams along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Nest holes in trees near still or slow moving water.

Breeding: Nests in natural tree cavities from 20-50 feet above ground. Also readily accepts man-made nestboxes.

Food Habits: 90% plant material including acorns, other nuts, duckweed, wild rice, seeds and tubers. Some invertebrates, such as spiders and aquatic insects are also eaten.

Other information: Often seen in open woodlands near water along the Parkway.



Mallard (MALL)

(*Anas platyrhynchos*)

Status: Common winter and spring.

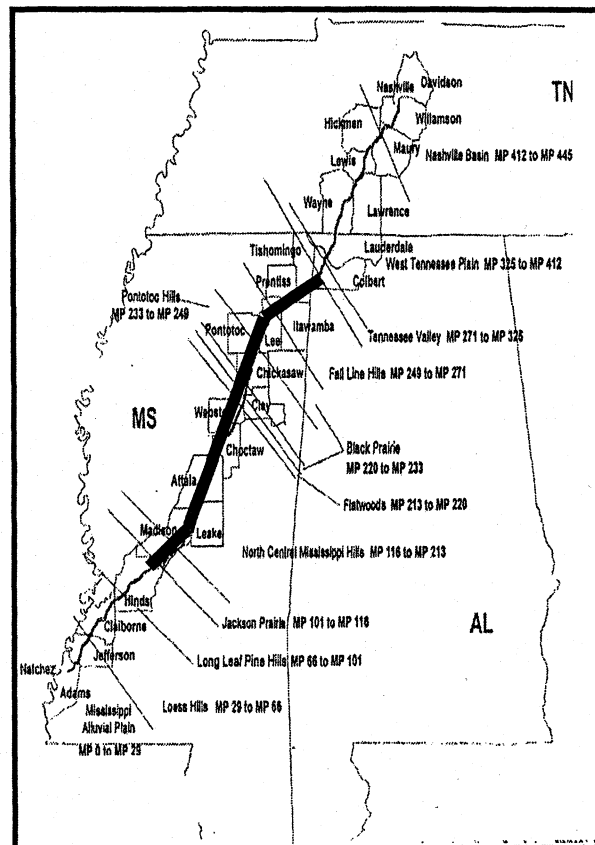
Distribution and Habitat: Inhabits nearly all freshwater habitats along the Natchez trace Parkway.

Special Habitat Requirements: Needs open water.

Breeding: Nests on the ground in dry or slightly marshy areas.

Food Habits: Feeds by dabbling in shallow water for seeds, nuts, aquatic insects, tadpoles, small fish and fish eggs.

Other information: Most often seen in shallow streams or ponds from October-May on the Parkway.



Turkey Vulture (TUVU)

(*Cathartes aura*)

Status: Common permanent resident.

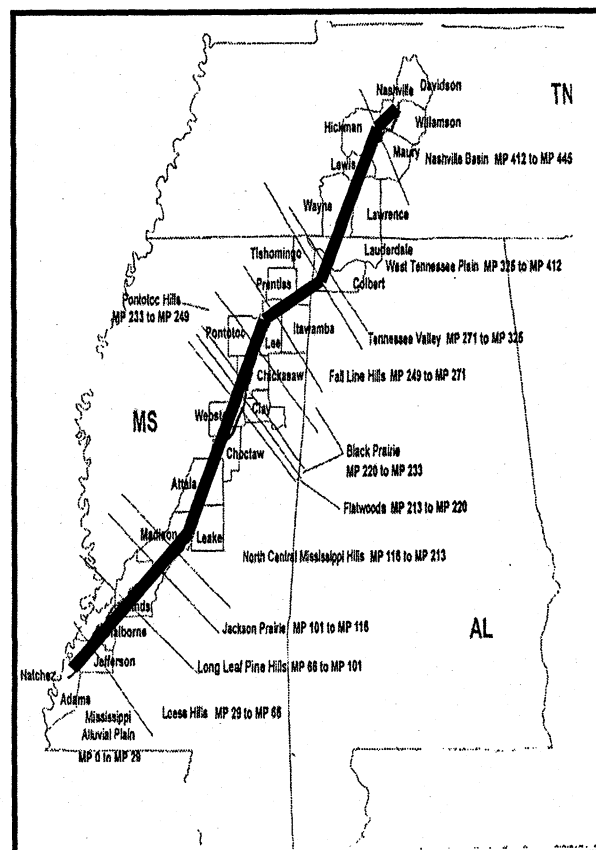
Distribution and Habitat: Habitat generalist on the Natchez Trace Parkway for its entire length.

Special Habitat Requirements: Requires tall snags for roosting and preening.

Breeding: Does not build a nest, but lays eggs on the floor of caves, in dense shrubs, hollow logs or stumps, or in old hawk nests.

Food Habits: Feeds almost entirely on carrion.

Other information: This species is easy to find near road killed animals along the Parkway.



Black Vulture (BLVU)

(*Coragyps atratus*)

Status: Common permanent resident.

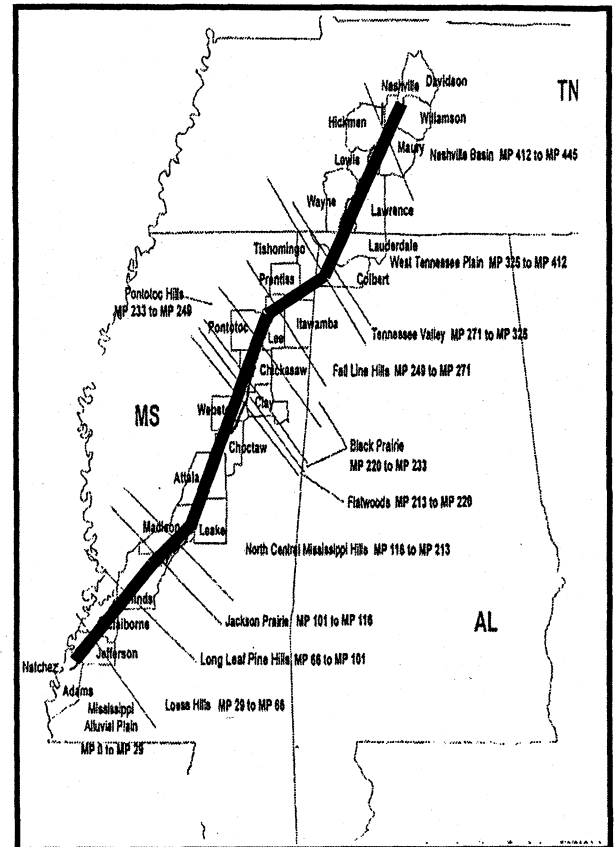
Distribution and Habitat: Nearly ubiquitous except in heavily forested areas throughout the Natchez Trace Parkway.

Special Habitat Requirements: Large open areas for soaring.

Breeding: Does not build a nest, but lays eggs in hollow bases of trees or stumps, under dense or thorny vegetation, on cliff ledges and cavities in rocks.

Food Habits: Largely carrion, but also kills young herons, skunks, opossums and feeds at times on ripe or rotten fruits or vegetables.

Other information: May be seen near road killed animals or soaring over large open areas.



Mississippi Kite (MIKI)

(*Ictinia mississippiensis*)

Status: Uncommon summer resident.

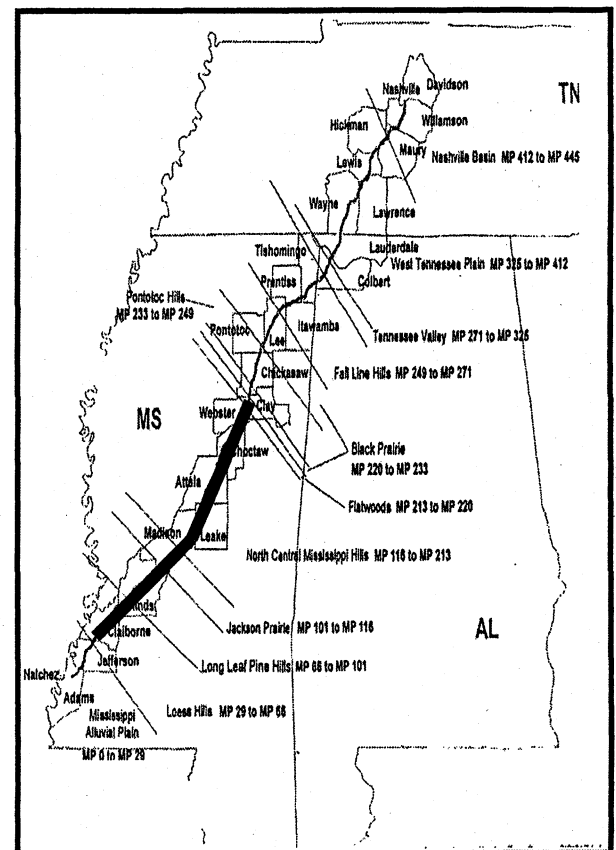
Distribution and Habitat: Inhabits forests, open woodlands and prairies in the southern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Requires open areas for foraging.

Breeding: Usually nests in riparian habitats or in large pines, oaks or sweetgums in large wooded areas. Nest is placed from 10-135 feet above the ground.

Food Habits: Primarily feeds on large insects caught in the air, but also feeds on small snakes, lizards and frogs.

Other information: Most often seen foraging in edge areas between open fields and wooded areas along the Parkway.



Sharp-shinned Hawk (SSHA)

(Accipiter striatus)

Status: Rare winter visitor.

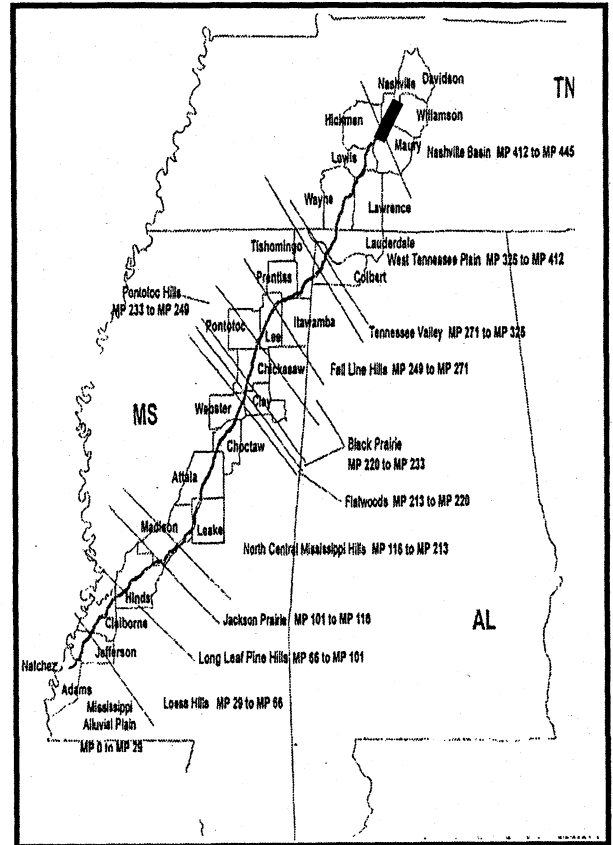
Distribution and Habitat: May occur in almost any type of habitat containing trees or shrubs during winter visits.

Special Habitat Requirements: Dense coniferous-deciduous forest.

Breeding: Usually nests in conifers with dense foliage, from 6-90 feet up, but below the canopy.

Food Habits: Feeds primarily on birds, but small mammals, reptiles and insects are also eaten.

Other information: This small hawk is most often seen under the forest canopy.



Cooper's Hawk (COHA)

(Accipiter cooperii)

Status: Uncommon permanent resident.

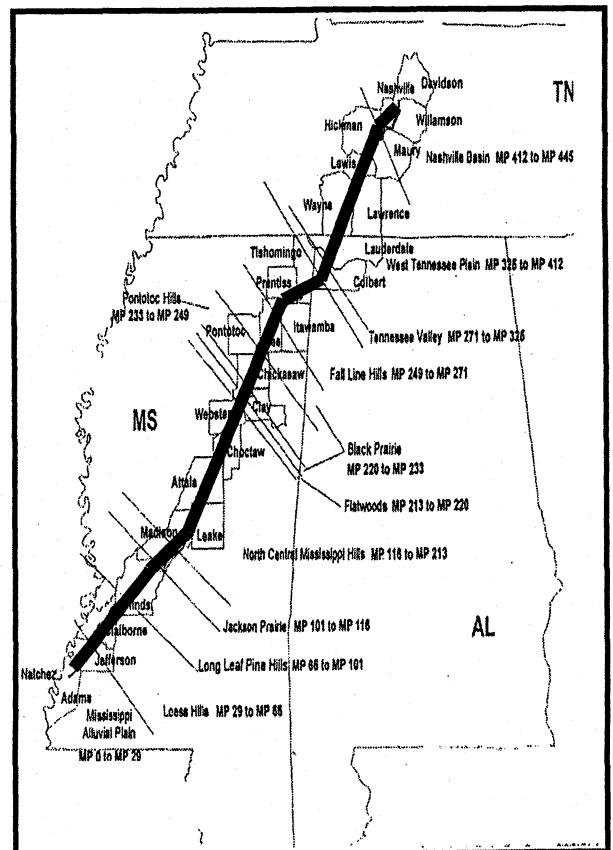
Distribution and Habitat: Inhabits various mixed and deciduous forests and open woodlands along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Mature coniferous or deciduous woodlands.

Breeding: Usually nests in trees near the edge of a wooded area. Nest is placed from 20-60 feet above ground.

Food Habits: Primary food is small to medium sized birds, but it is also known to eat small mammals, amphibians and some insects.

Other information: Most often seen flying from inside the forest canopy on one side of the Parkway road to a like location on the other side.



Broad-winged Hawk (BWAH)

(*Buteo platypterus*)

Status: Fairly common summer resident.

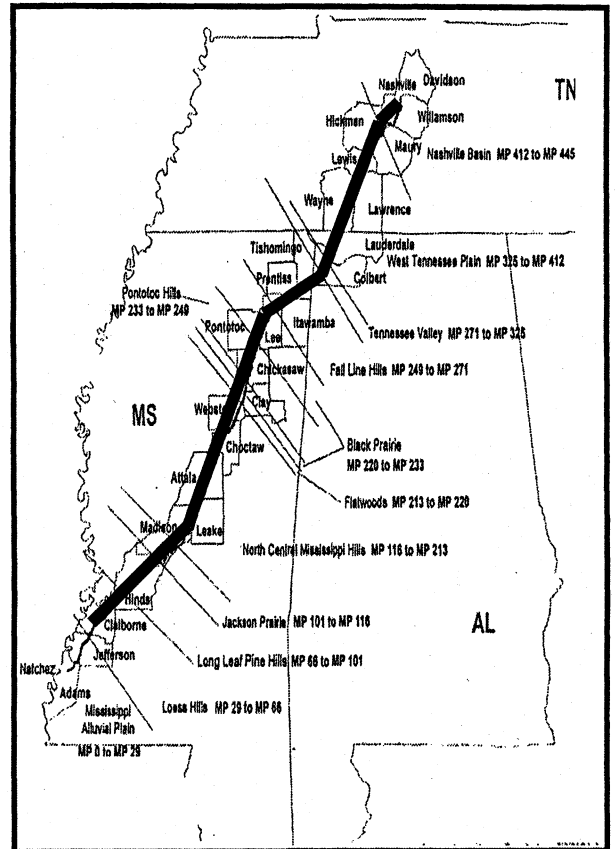
Distribution and Habitat: Inhabits dry deciduous or mixed woodlands near streams, lakes or swamps throughout the Natchez Trace Parkway.

Special Habitat Requirements: Woodlands near water.

Breeding: Nests near water in a variety of tree species from 3-90 feet above the ground. Sometimes uses old crow or squirrel nests.

Food Habits: Feeds largely on small mammals, but will also consume reptiles, frogs, large insects, small birds and sometimes small fish.

Other information: Often seen flying over wooded areas or small meadows along the Parkway.



Red-Shouldered Hawk (RSHA)

(*Buteo lineatus*)

Status: Fairly common permanent resident.

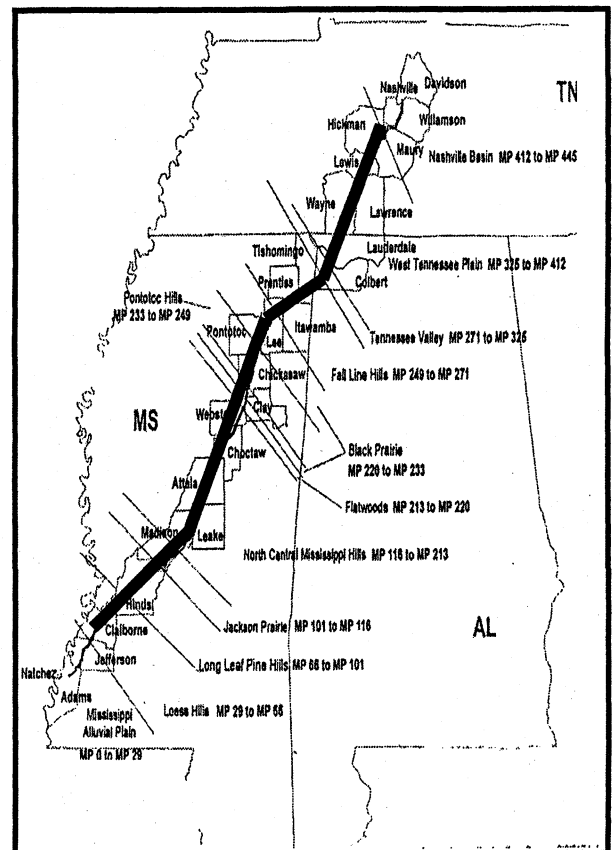
Distribution and Habitat: Inhabits moist woodlands, bottomlands and wooded margins of marshes, often close to cultivated fields throughout the Natchez Trace Parkway.

Special Habitat Requirements: Mature riparian deciduous woodlands with tall trees for nesting.

Breeding: Nests 20-60 feet above the ground on a main fork, close to the trunk of a tall deciduous tree.

Food Habits: Feeds on small to medium sized mammals, reptiles, amphibians, fishes, small birds and large insects.

Other information: Often seen perching on fence posts or power poles overlooking open fields.



Red-tailed Hawk (RTHA)

(*Buteo jamaicensis*)

Status: Common permanent resident.

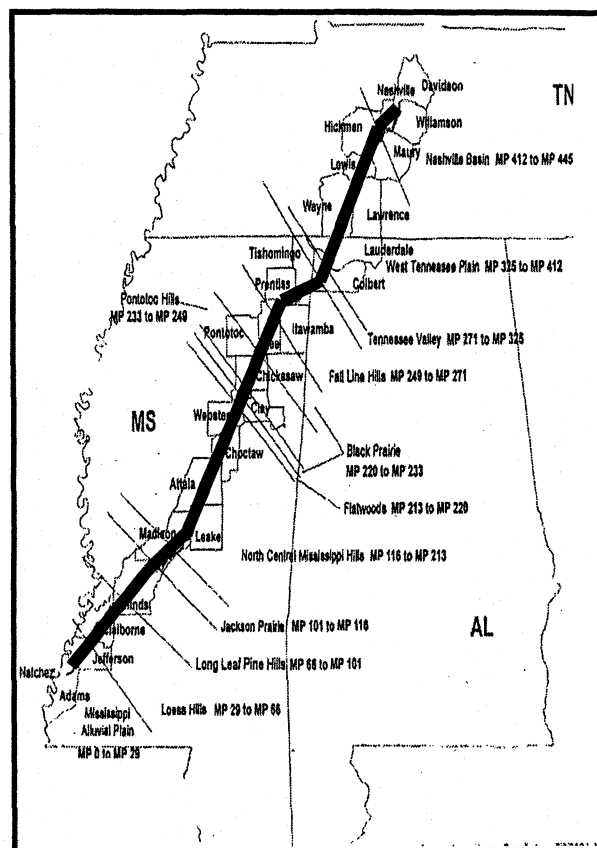
Distribution and Habitat: Inhabits a wide variety of habitats throughout the Natchez Trace Parkway. Prefers mixed country of open fields interspersed with woodlands.

Special Habitat Requirements: Snags, tall trees or poles near open areas from which to hunt.

Breeding: Nests from 35-90 feet up in a tall tree at the edge of woodlands or in an isolated tree in an open area.

Food Habits: Primarily eats small mammals, but will take birds, reptiles and some insects.

Other information: This bird is commonly seen soaring above open fields along the entire length of the Parkway.



American Kestrel (AMKE)

(*Falco sparverius*)

Status: Uncommon winter visitant.

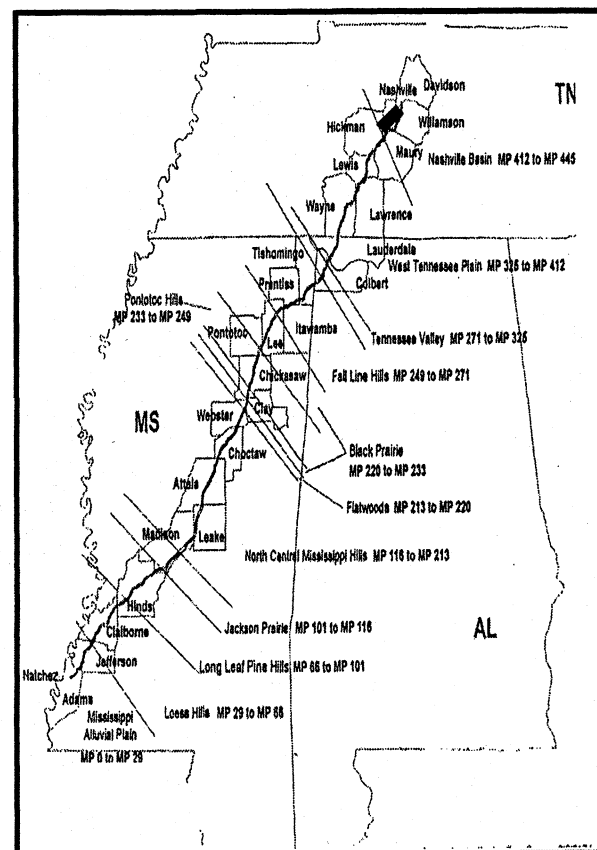
Distribution and Habitat: Habitats include forest openings, open fields and agricultural areas.

Special Habitat Requirements: Open country with low vegetation and high perches from which to sight prey.

Breeding: Nests in natural tree cavities from 4-65 feet above the ground. Nest sites are usually along forest edges, streams or roadways.

Food Habits: Primarily feeds on large insects, but will also take small mammals, birds, reptiles and amphibians.

Other information: Usually seen perched on fence posts or utility poles and wires along the Parkway.



Wild Turkey

(Meleagris gallopavo)

Status: Common.

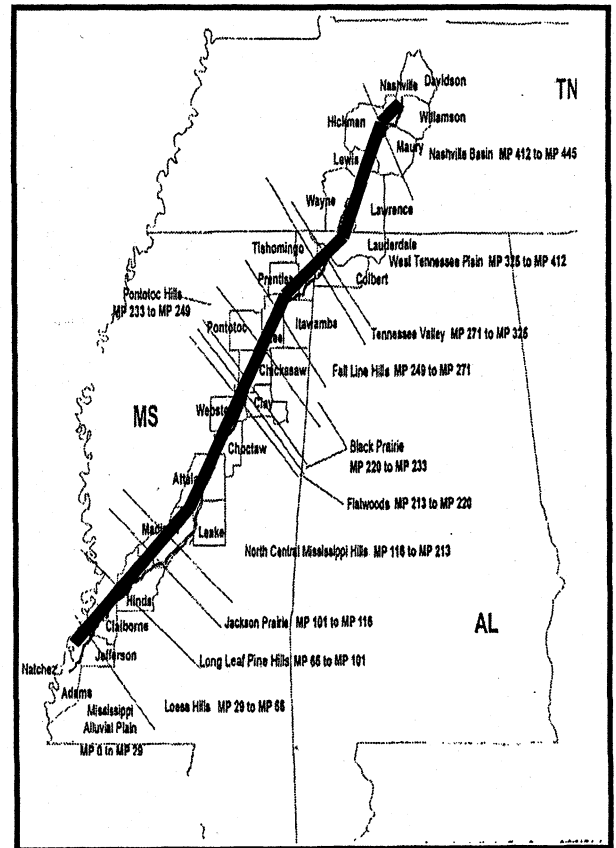
Distribution and Habitat: Prefers open, mature hardwood forest containing mast producing trees such as oaks throughout the Natchez Trace Parkway.

Special Habitat Requirements: Mast producing woodlands with forest clearings, large trees for roosting and water nearby.

Breeding: Nests in a slight depression on dry ground, usually in dead leaves at the base of a tree, shrub or log.

Food Habits: Diet is 90% plant foods including mast of oaks, beech and pines, fruits, seeds grains and greens of grasses and forbs. Insects, especially grasshoppers are eaten during the breeding season.

Other information: Often seen foraging in forest edges in open fields along the Parkway.



Northern Bobwhite (NOBO)

(Colinus virginianus)

Status: Common permanent resident.

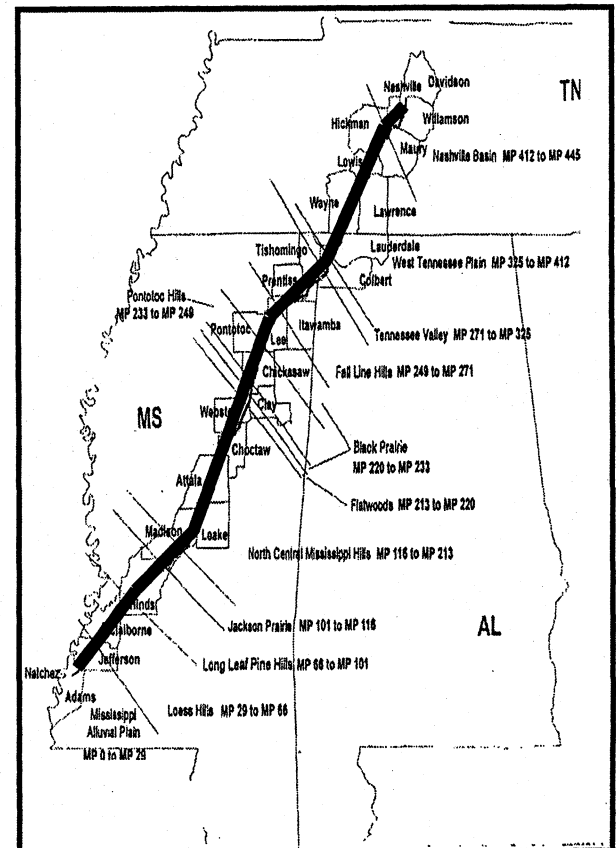
Distribution and Habitat: Inhabits open areas with abundant weedy growth and cultivated or fallow agricultural fields with hedgerows and dense brush near open woodlands throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open woodlands adjacent to fields and brushy cover.

Breeding: Nests on dry ground, usually in a dense stand of herbaceous and grassy vegetation with scattered shrubs, briars and patches of bare ground. Prefers areas where vegetation is less than 20 inches tall and stems are separate enough to walk between.

Food Habits: 95% plant material including seeds, fruits and buds. Some insects are also consumed.

Other information: Most often heard in the morning along forest edge bordering open weedy fields.



Killdeer (KILL)

(*Charadrius vociferus*)

Status: Common.

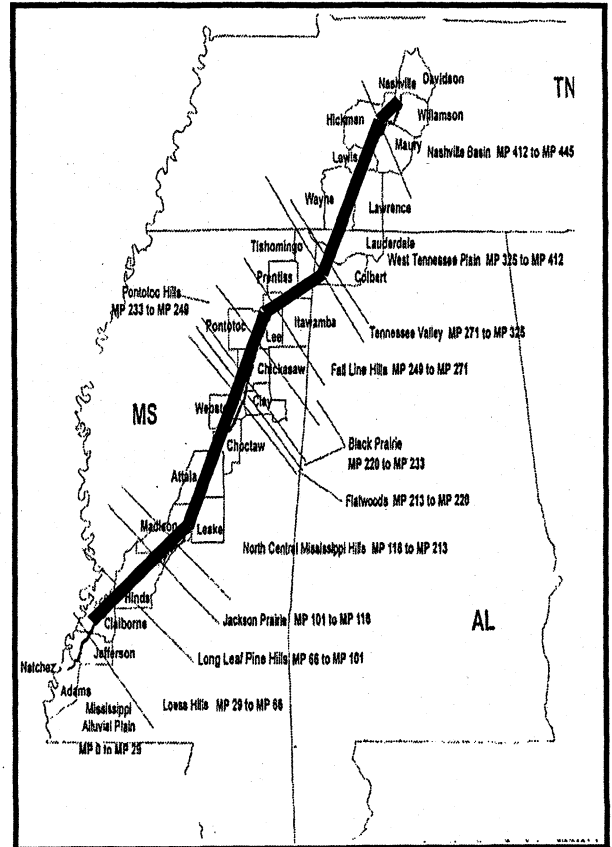
Distribution and Habitat: Occupies open areas, favoring upland meadows, pastures and disturbed or heavily grazed areas throughout the length of the Natchez Trace Parkway.

Special Habitat Requirements: Open areas with closely cropped or sparse vegetation.

Breeding: Nests in a scrape on gravelly or bare ground, often with a few pebbles, grasses or weeds in the scrape.

Food Habits: Diet is mainly insects, but also includes spiders, worms, snails, crayfish and weed seeds.

Other information: Often seen foraging in fallow agricultural fields along the Parkway.



American Woodcock (AMWO)

(*Scolopax minor*)

Status: Uncommon permanent resident.

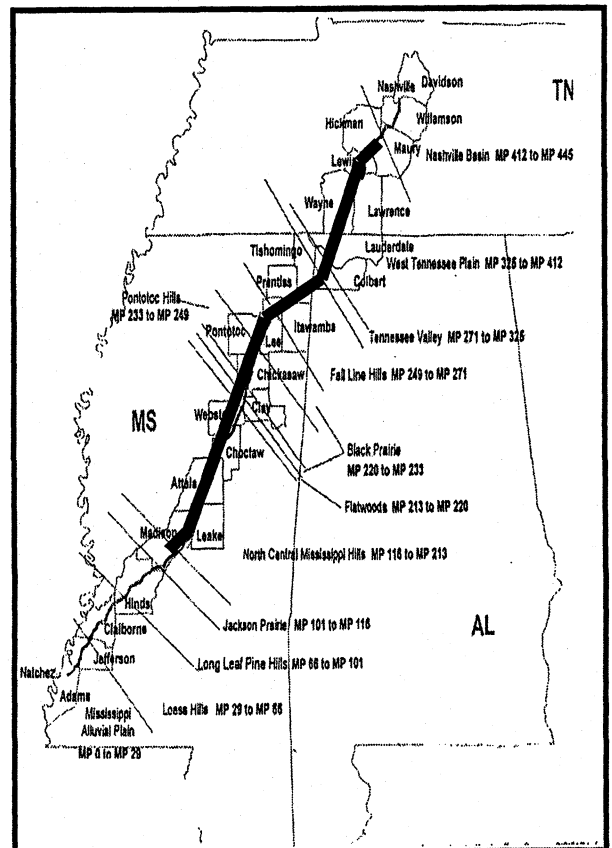
Distribution and Habitat: Inhabits moist deciduous woodlands in early stages of succession with trees under 25 feet tall and open fields nearby.

Special Habitat Requirements: Dense brushy swales with nearby fields for courtship activities and fertile, poorly drained soils containing earthworms for feeding.

Breeding: Nests in a slight depression on dry ground, usually within a few meters of a brushy edge.

Food Habits: Earthworms provide 50-90% of the diet. Insect larvae and adults, crustaceans, spiders, seeds and berries are also eaten.

Other information: This species is more often heard in the mornings in moist woodlands, than seen.



Herring Gull (HERG)

(*Larus argentatus*)

Status: Uncommon winter visitant.

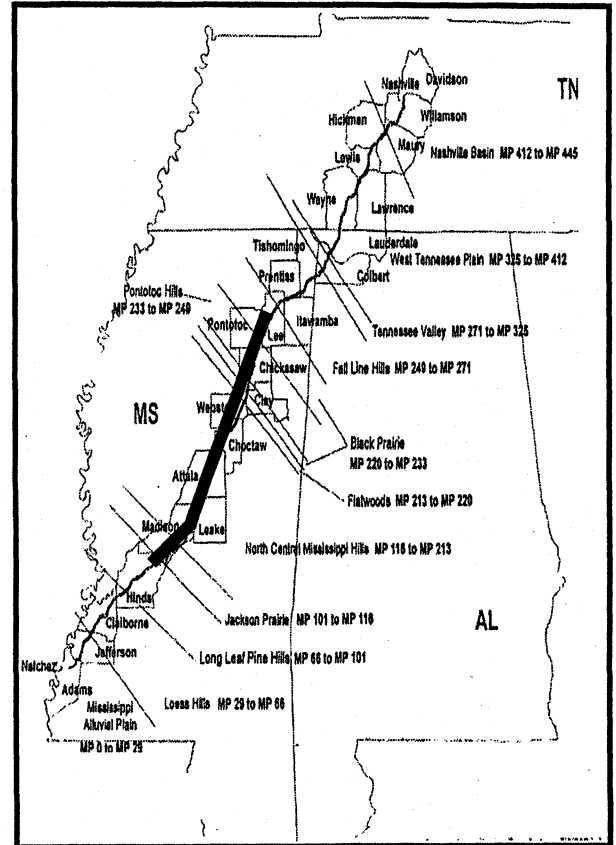
Distribution and Habitat: Occurs along shores of lakes and larger rivers and streams throughout the Natchez Trace Parkway.

Special Habitat Requirements: Beaches where food is likely to be abundant.

Breeding: Nests in exposed sites on the ground in colonies. Does not nest on the Natchez Trace Parkway.

Food Habits: Consumes small mammals, birds and their eggs, amphibians, fishes, shellfishes, invertebrates, berries, some fruit, carrion and garbage.

Other information: Most often seen around larger lakes such as Ross Barnett Reservoir.



Royal Tern (ROYT)

(*Sterna maxima*)

Status: Uncommon transient.

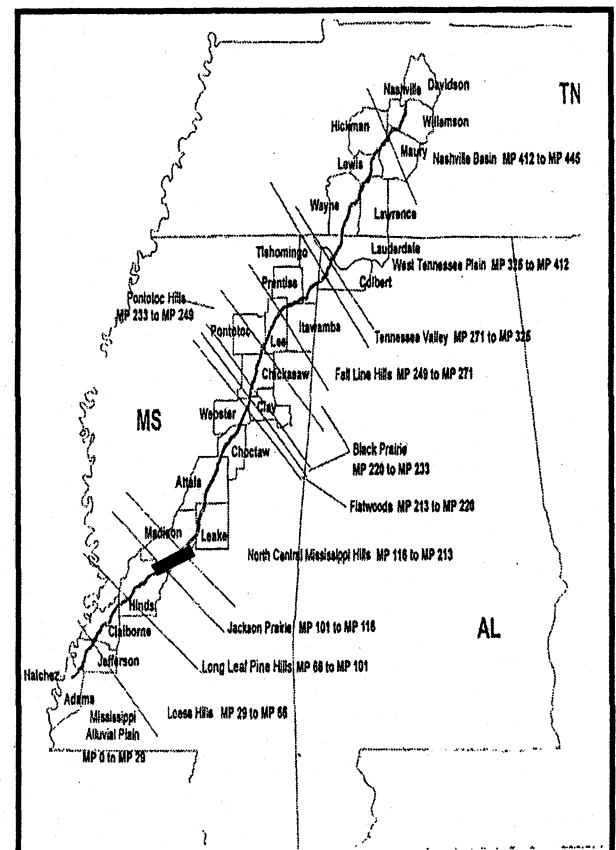
Distribution and Habitat: Occurs along shores of lakes and larger rivers in the southern 1/3 the Natchez Trace Parkway.

Special Habitat Requirements: Beaches where food is likely to be abundant.

Breeding: Nests in shallow depressions on the ground in dense colonies. Probably does not nest along the Parkway.

Food Habits: Feeds almost entirely on fish, but will also take crayfish, aquatic insects and some crustaceans.

Other information: Most easily seen near Ross Barnett Reservoir and larger streams along the Parkway.



Rock Dove (RODO)

(Columba livia)

Status: Common introduced resident.

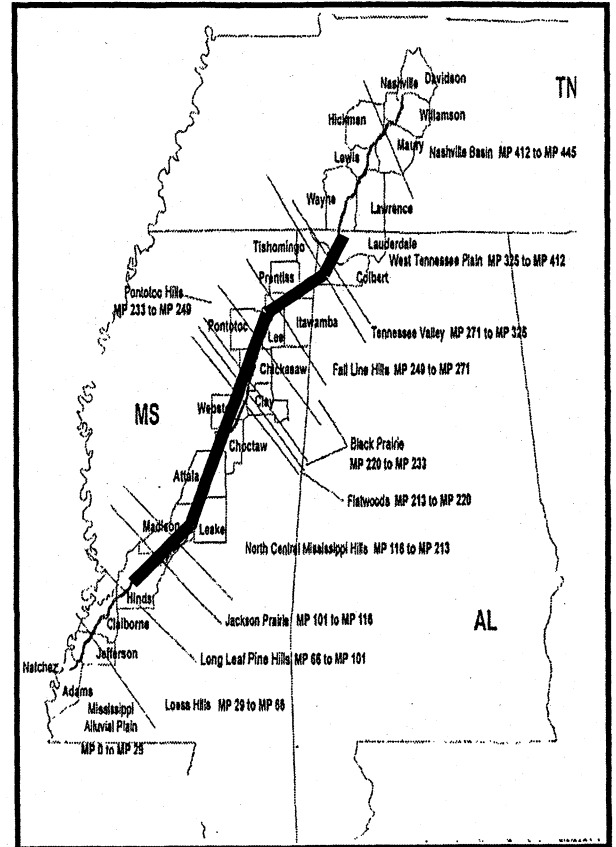
Distribution and Habitat: Commonly found near human habitations and bridges throughout the Natchez Trace Parkway.

Special Habitat Requirements: Structures with narrow ledges for nesting.

Breeding: Constructs a flimsy nest on ledges, under bridges, in barns or other man made structures, preferably in semi-dark cavities. May nest singly or in loose colonies.

Food Habits: Eats seeds of weeds, grasses and grains, berries, and tender roots of grasses.

Other information: Most often seen under bridges and perching on utility wires along the Parkway.



Morning Dove (MODO)

(Zenaida macroura)

Status: Common permanent resident.

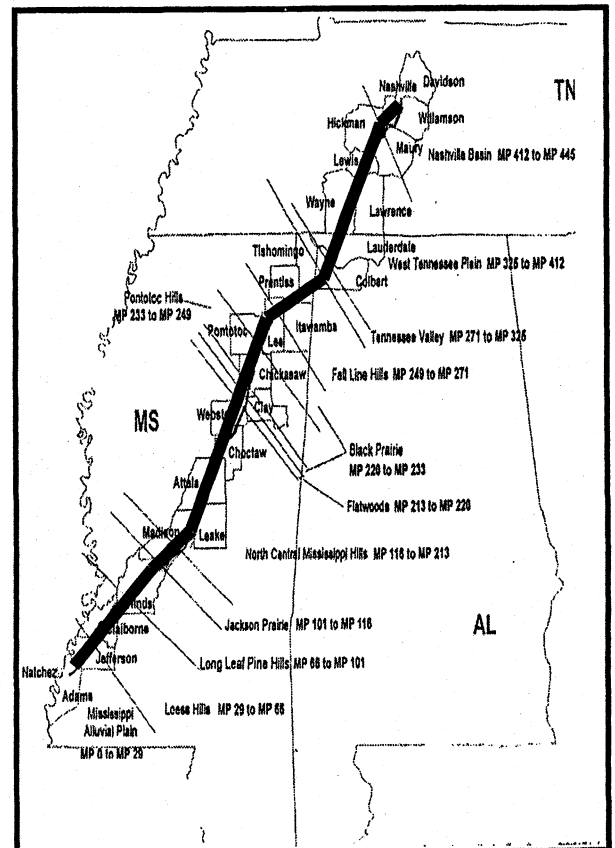
Distribution and Habitat: Inhabits open mixed woodlands, wood edges, shelterbelts and evergreen plantations throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open country with some bare ground and adequate food.

Breeding: Nests on horizontal branches in shrubs and trees from 10-100 feet above the ground and occasionally on the ground.

Food Habits: Feeds primarily on weed seeds and waste grains. Also eats a few insects, small snails, fruits and nuts.

Other information: Easily seen and heard on utility wires throughout the Parkway.



Yellow-billed Cuckoo (YBCU)

(*Coccyzus americanus*)

Status: Common.

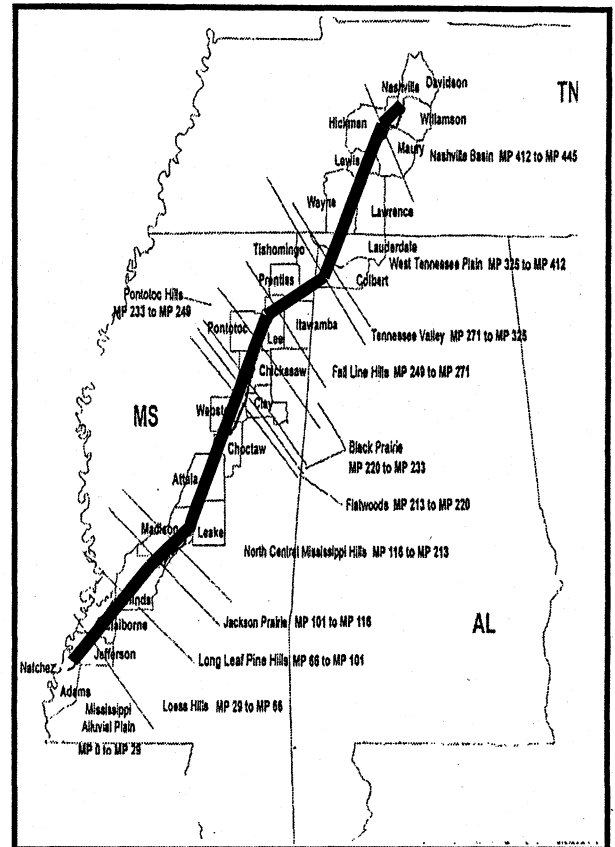
Distribution and Habitat: Favors moderately dense thickets near watercourses, second growth woodlands and deserted farmlands overgrown with shrubs and brush throughout the Natchez Trace Parkway.

Special Habitat Requirements: Low, dense, shrubby vegetation.

Breeding: Prefers to nest in thick bushes overgrown with vines or in trees on horizontal limbs from 4-8 feet above the ground. Nest is concealed with surrounding foliage.

Food Habits: Food consists mainly of caterpillars and webworms. Other insects, spiders, small fruits and small reptiles are sometimes eaten.

Other information: Most often seen flying across the Parkway road between wooded areas.



Black-billed Cuckoo (BBCU)

(*Coccyzus erythrophthalmus*)

Status: Uncommon.

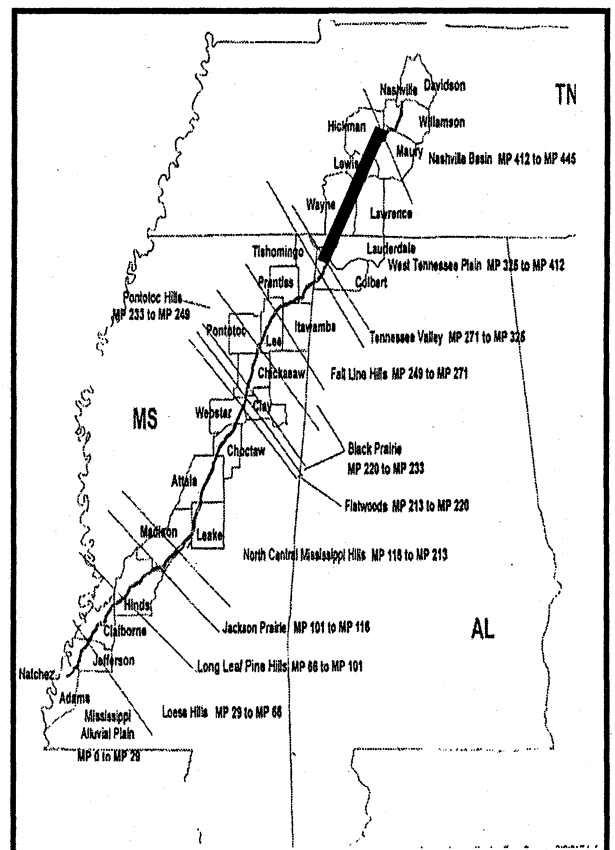
Distribution and Habitat: Prefers extensive areas of upland woods that provide a variety of trees, bushes and vines in the northern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Low, dense, shrubby vegetation.

Breeding: Usually nests in shrubs or on a low tree branch, 4-6 feet above the ground in a site well concealed by overhanging branches and leaves.

Food Habits: Feeds primarily on caterpillars, but will also take other insects, spiders, tiny mollusks, fishes and wild fruits and berries.

Other information: This species is more often heard than seen in thick woods of the Tennessee portions of the Parkway.



Great Horned Owl (GHOW)

(*Bubo virginianus*)

Status: Common permanent resident.

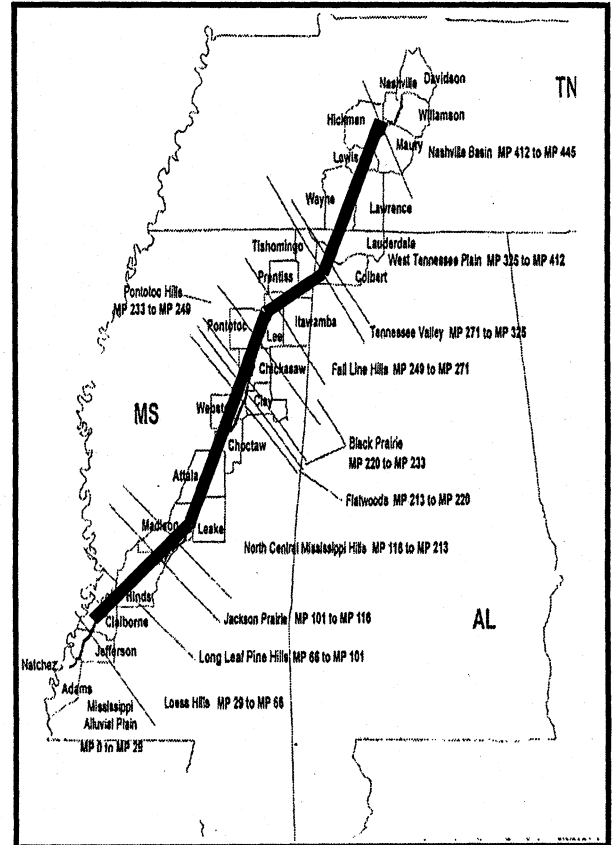
Distribution and Habitat: Occurs in a wide variety of forested habitats throughout the Natchez Trace Parkway.

Special Habitat Requirements: Requires large abandoned bird nests or large cavities for nesting.

Breeding: Occasionally constructs a nest up to 70 feet above ground, but usually utilizes abandoned nests of other large birds, tree cavities, crotches, stumps or caves and ledges.

Food Habits: Consumes an extremely varied animal diet including medium and small mammals and birds, reptiles, amphibians, fishes, large insects and carrion.

Other information: Most often seen or heard in the early mornings on at least partially wooded slopes along the Parkway.



Barred Owl (BAOW)

(*Strix varia*)

Status: Common permanent resident.

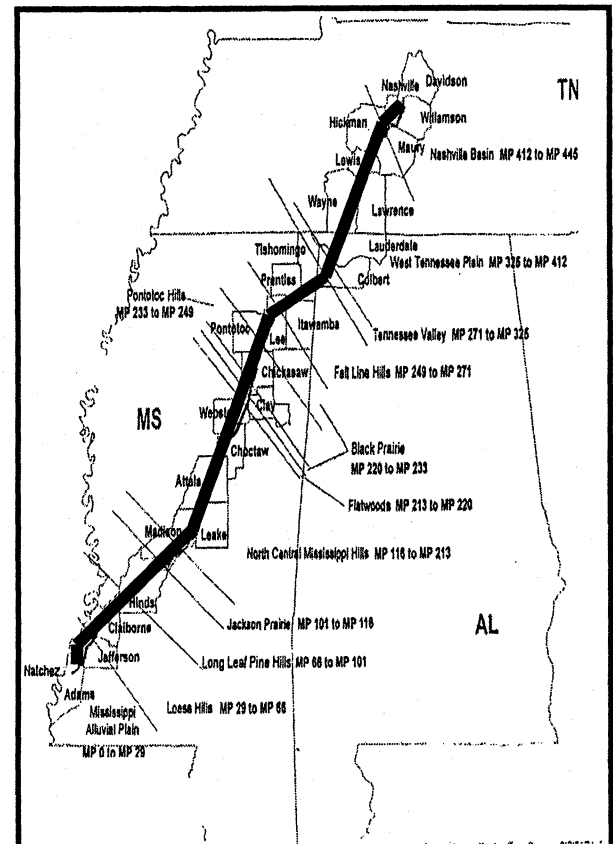
Distribution and Habitat: Common in dense oak or mixed forest near water throughout the length of the Natchez Trace Parkway.

Special Habitat Requirements: Cool, damp lowlands with large cavity trees of 20 inches dbh or greater for nesting.

Breeding: Typically nests in a large cavity in a dead tree up to 25 feet above the ground. May use abandoned crow or hawk nests if cavities are hard to find.

Food Habits: Small mammals, birds, fishes, reptiles, amphibians, spiders and large insects are eaten.

Other information: Commonly heard early in the morning. Most easily seen at dusk hunting in open areas near dense woods.



Eastern Screech Owl (EASO)

(*Otus asio*)

Status: Uncommon.

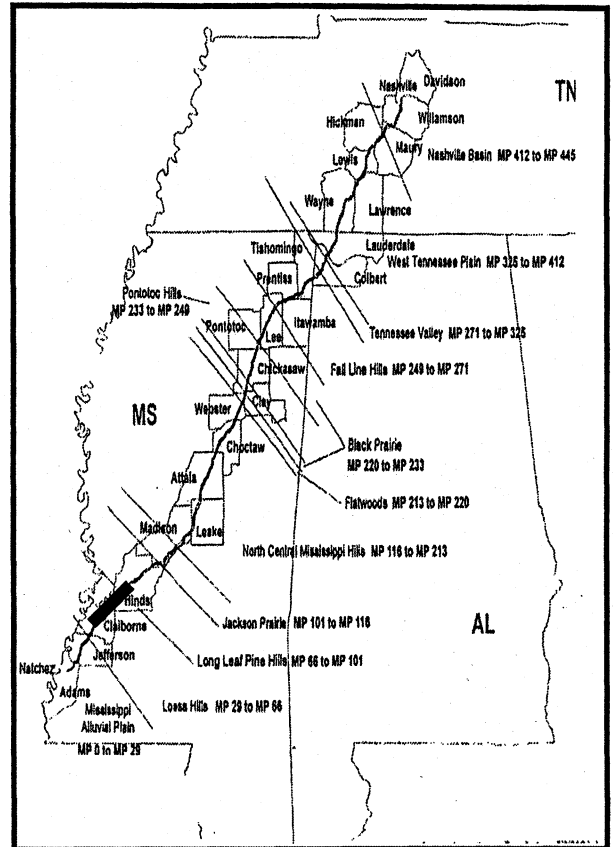
Distribution and Habitat: Inhabits open woodlands adjacent to meadows or marshes throughout the Natchez Trace Parkway.

Special Habitat Requirements: Cavities for nesting and roosting in trees with a minimum dbh of 12 inches.

Breeding: Nests in natural cavities in trees or old woodpecker nests with 3-5 inch openings and from 5-50 feet above the ground.

Food Habits: Primarily feeds on rodents, but also eats insects, spiders, crayfish, amphibians, reptiles, fishes and small birds.

Other information: Most easily seen and heard at dusk in areas of widely spaced trees interspersed with grassy open areas.



Common Nighthawk (CONI)

(*Chordeiles minor*)

Status: Uncommon.

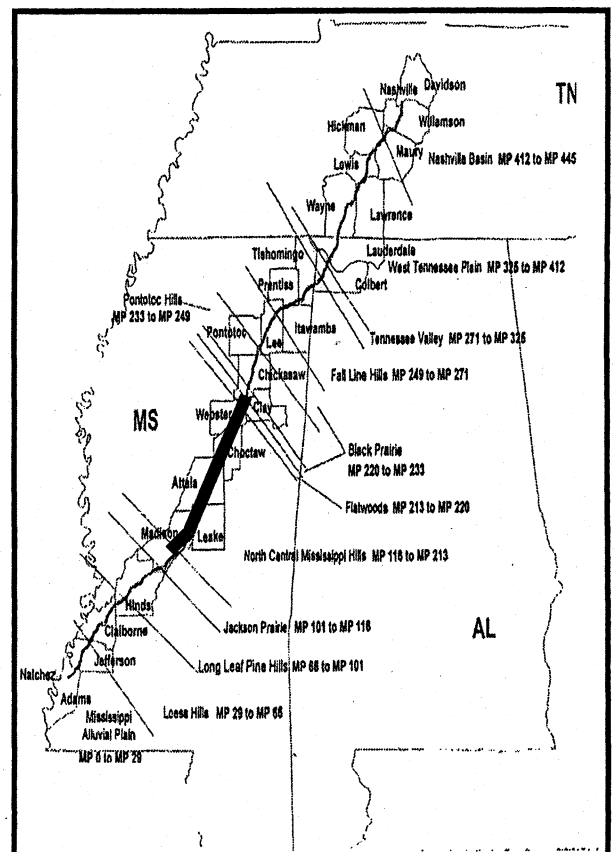
Distribution and Habitat: Prefers open habitats such as grasslands, sparse woods, plowed fields or towns throughout the Natchez Trace Parkway.

Special Habitat Requirements: Requires barren areas with rocky or gravelly soils.

Breeding: Lays eggs on gravelly ground or partially vegetated soil, but always in the open.

Food Habits: Sweeps flying insects out of the air.

Other information: Mainly crepuscular and nocturnal. Most easily seen at dusk foraging in open areas.



Chuck-will's-widow (CWWI)

(*Caprimulgus carolinensis*)

Status: Common.

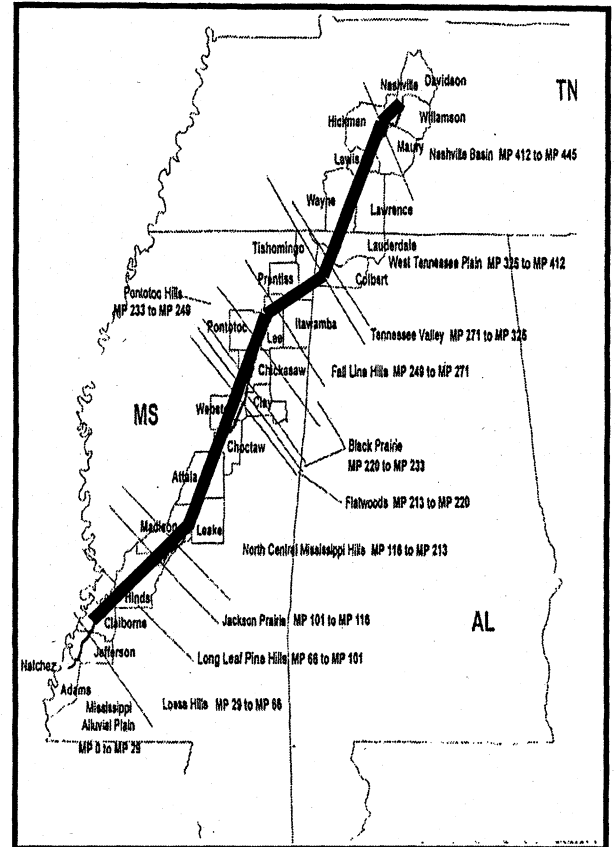
Distribution and Habitat: Prefers mixed oak and pine forests, forest edges and woodlands along river courses along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Needs openings near wooded areas in which to forage.

Breeding: Lays its eggs on the ground on dead leaves at the edge of forests near roads or other clearings.

Food Habits: Night flying moths, beetles and other insects are taken in the air.

Other information: Often heard calling during early morning from mixed woods along the Parkway.



Whip-poor-will (WPWI)

(*Caprimulgus vociferus*)

Status: Common.

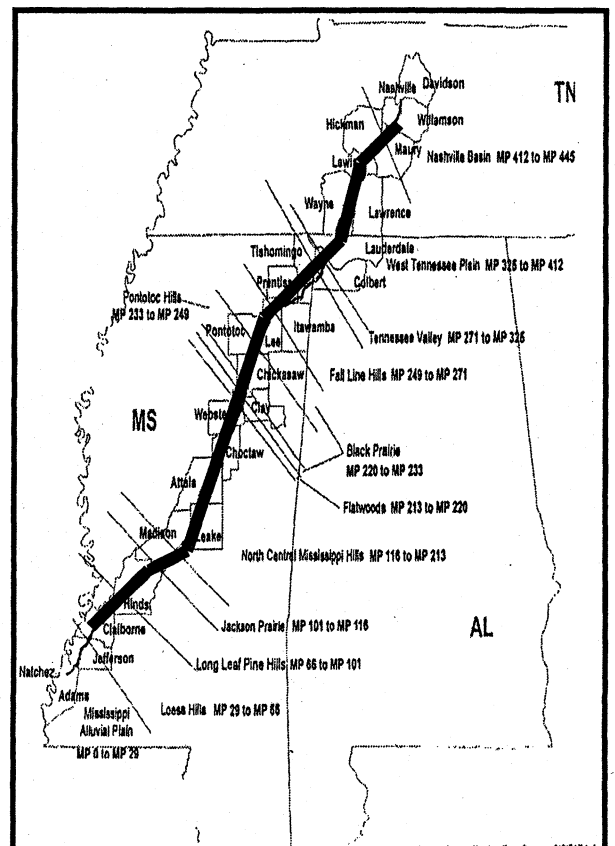
Distribution and Habitat: Prefers open hardwood or mixed woodlands, particularly young stands in dry habitats. Most common in the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Requires stands with scattered clearings.

Breeding: Lays eggs on dead leaves on well drained ground in areas of partial shade.

Food Habits: Feeds in flight on moths, beetles, mosquitoes, ants, grasshoppers, gnats, and other insects.

Other information: Often heard calling from woods at dawn and dusk.



Chimney Swift (CHSW)

(*Chaetura pelagica*)

Status: Common.

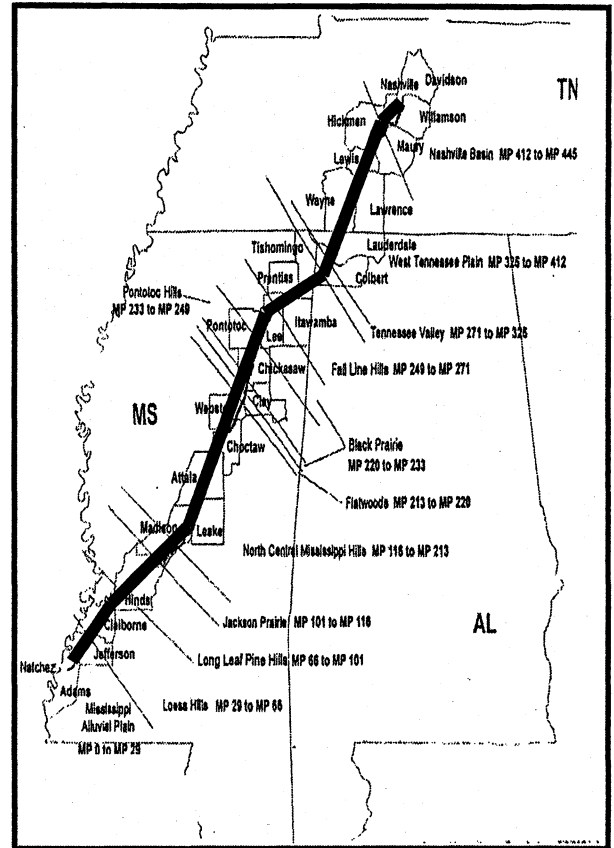
Distribution and Habitat: Not confined to any habitat, but dependent on suitable nesting sites. Prefers areas with mature hollow trees or the vicinity of buildings in towns throughout the Natchez Trace Parkway.

Special Habitat Requirements: Hollow trees or structure such as chimneys, silos or rafters for nest sites.

Breeding: Nest of twigs glued together with saliva attached to a vertical wall near the top of a structure.

Food Habits: Flying insects make up the primary food source, however, caterpillars hanging from tree branches are sometimes taken.

Other information: Often seen foraging over woods or open areas near towns or large farms along the Parkway.



Ruby-throated Hummingbird (RTHU)

(*Archilochus colubris*)

Status: Uncommon.

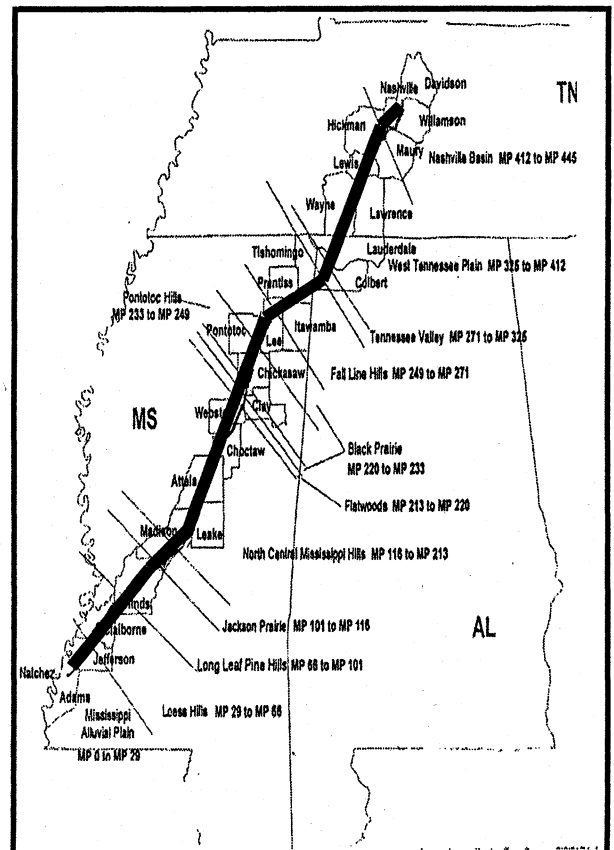
Distribution and Habitat: Occurs in a variety of wooded habitats, usually near streams or marshes throughout the Natchez Trace Parkway.

Special Habitat Requirements: Require plants that provide tubular nectar bearing flowers, especially red flowers.

Breeding: Nests from 6-50 feet up in trees on fairly level branch protected from above by larger branches or leafy canopy.

Food Habits: Flower nectar, small insects, spiders and tree sap are eaten.

Other information: Most easily found near streams along the Parkway.



Belted Kingfisher (BEKI)

(Ceryle alcyon)

Status: Uncommon permanent resident.

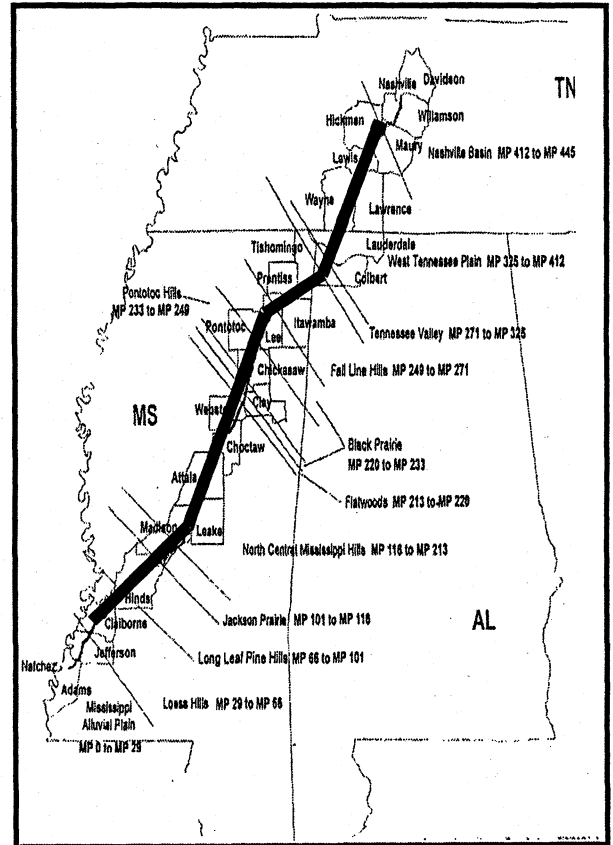
Distribution and Habitat: Occurs in the vicinity of ponds, streams, lakes and rivers. Most common in the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Nests within one mile of water with low turbidity supporting adequate aquatic animal populations with perches near water.

Breeding: A nest is excavated 3-15 feet deep in a bank with sandy, gravelly or clay soil. The nest is usually at least 5 feet off the ground or water and within 3 feet of the top of the bank.

Food Habits: Feeds primarily on fish, but will take crayfish, mollusks, frogs, small reptiles, mice and large insects as well.

Other information: Often seen and heard foraging along larger streams along the Parkway.



Red-headed Woodpecker (RHWO)

(Melanerpes erythrocephalus)

Status: Common permanent resident.

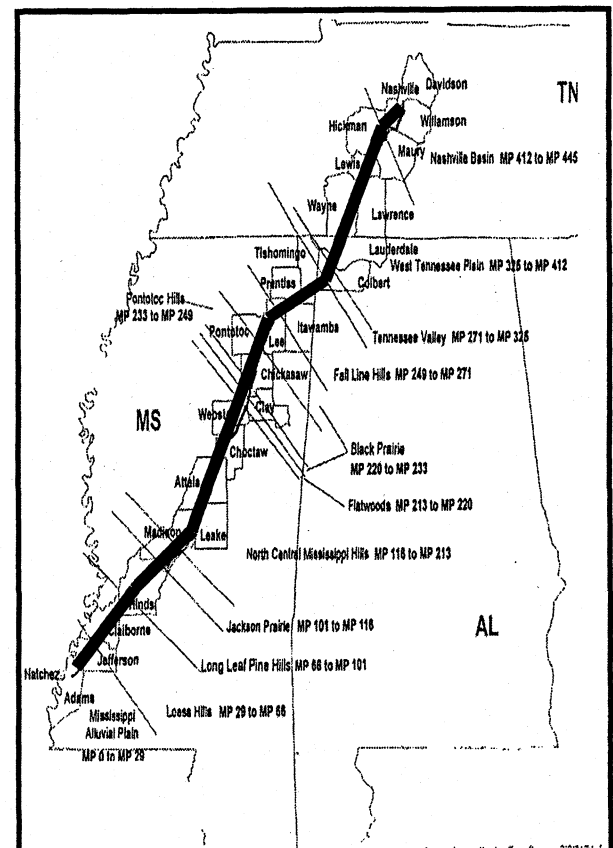
Distribution and Habitat: Inhabits open forests with low stem counts, preferring savannahlike grasslands with scattered trees and forest edges throughout the Natchez Trace Parkway.

Special Habitat Requirements: Requires relatively open forests with dead and dying trees for cavities and feeding perches.

Breeding: Nests in the trunk or in isolated snags of dead trees. Prefers areas with no bark.

Food Habits: Eats primarily insects during the summer and stores mast such as acorns, beechnuts and corn under bark or in tree cavities for winter use.

Other information: Often seen foraging near the Parkway.



Red-Bellied Woodpecker (RBWO)

(*Melanerpes carolinus*)

Status: Common.

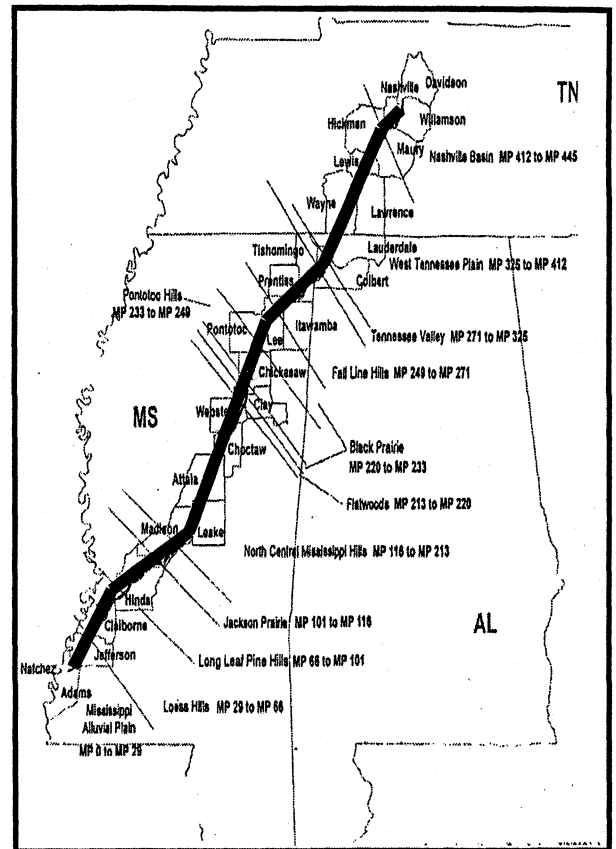
Distribution and Habitat: Inhabits mature deciduous and coniferous woodlands with dead and broken topped trees throughout the Natchez Trace Parkway.

Special Habitat Requirements: Mature woodlands with dead trees or large dead limbs for nesting.

Breeding: Nests are excavated in dead trees, limbs or stumps, usually less than 40 feet off of the ground.

Food Habits: Consumes primarily vegetable matter including fruits, nuts, seeds and juniper berries, but also feeds on some wood boring insect larvae found in dead wood.

Other information: This species may be seen or heard almost anywhere on the Parkway.



Northern (Yellow-shafted) Flicker (YSFL)

(*Colaptes auratus*)

Status: Common.

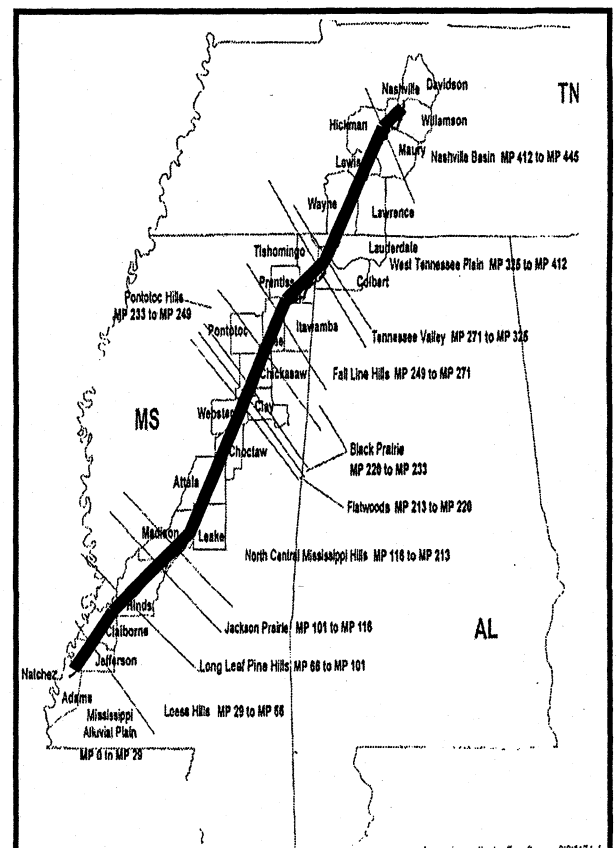
Distribution and Habitat: Found near large trees in open woodlands, fields and meadows throughout the Natchez Trace Parkway.

Special Habitat Requirements: Cavity nest sites.

Breeding: Excavates nest in live or dead trees, but, prefers to nest near the top of broken off stubs of dead trees in open country.

Food Habits: Consumes ants, other insects, weed seeds, cultivated grain and fruits of shrubs and trees.

Other information: This species may be seen or heard in almost any open area of the Parkway.



Yellow-bellied Sapsucker (YBSA)

(*Sphyrapicus varius*)

Status: Fairly common winter visitant.

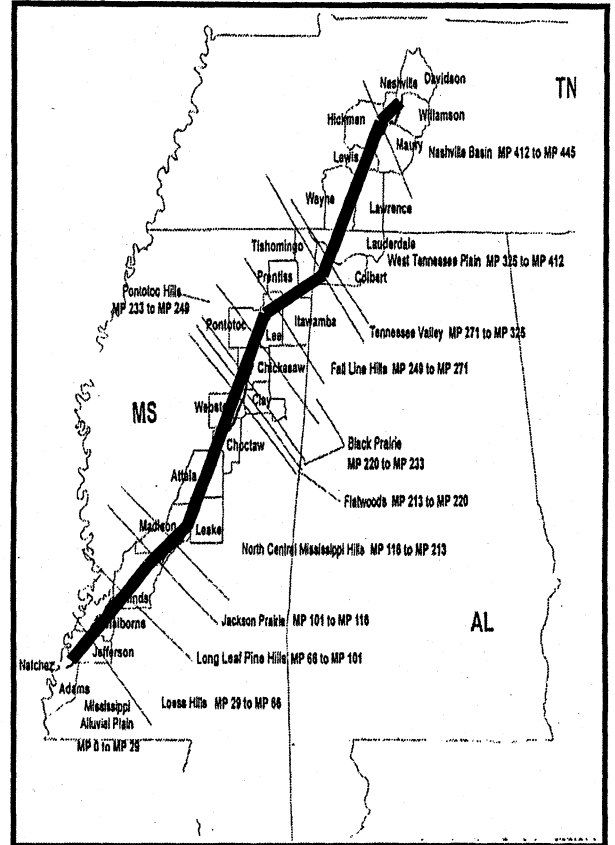
Distribution and Habitat: Occurs in a variety of forest and open woodland habitats throughout the Natchez Trace Parkway in the winter.

Special Habitat Requirements: Trees which produce quantities of sap.

Breeding: Excavates cavities in snags or live trees with rotten heartwood. This species does not nest on the Parkway.

Food Habits: Consumes cambium and tree sap. Also eats insects, fruits mast, and seeds.

Other information: May be seen in open, park-like stands during the winter.



Downy Woodpecker (DOWO)

(*Picoides pubescens*)

Status: Common.

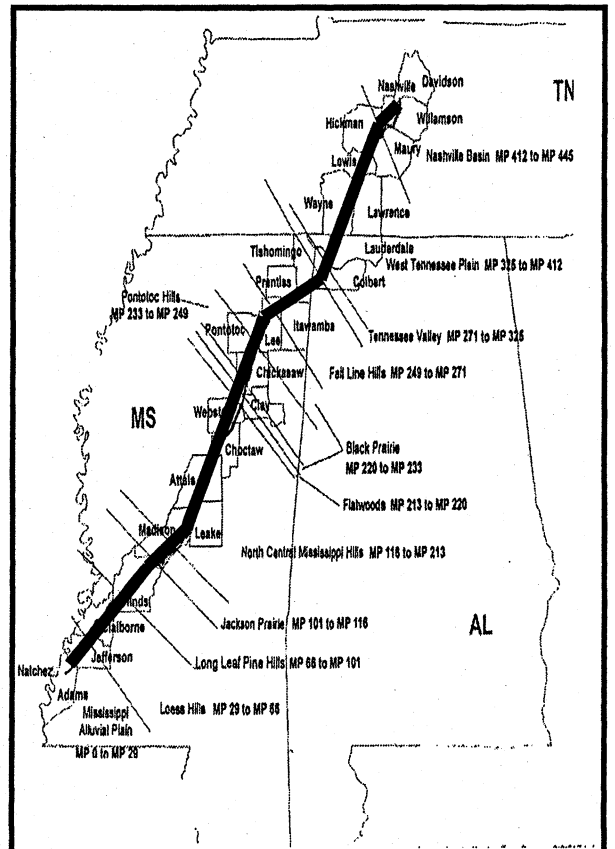
Distribution and Habitat: Inhabits most wooded habitats along the entire Natchez Trace Parkway.

Special Habitat Requirements: Suitable cavity trees.

Breeding: Excavates cavity nests near the top of dead trees or dead limbs of live trees in fairly open tree stands.

Food Habits: Consumes mostly wood boring beetle larvae, but will also eat wild fruits, corn, sumac seeds and mast.

Other information: Most easily found in the northern ½ of the Parkway in open forest stands.



(*Picoides villosus*)

Status: Common.

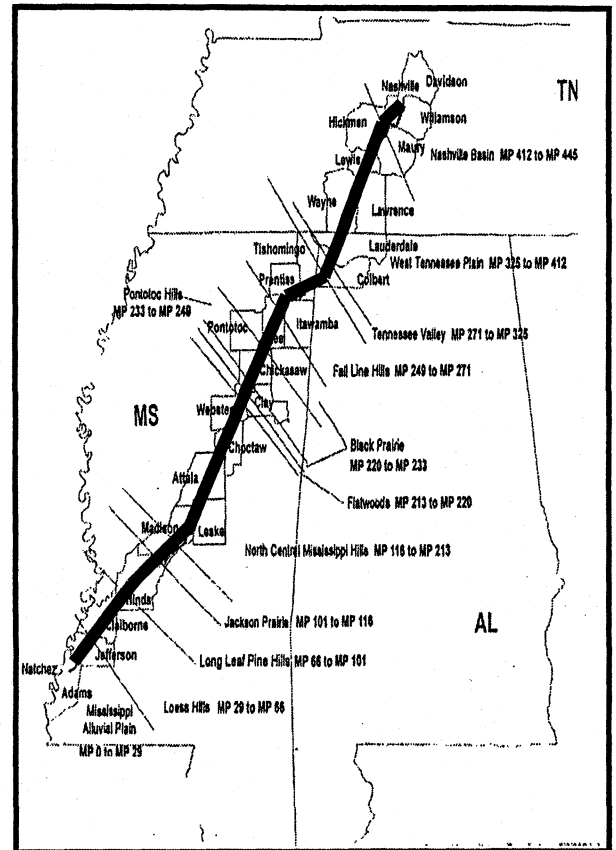
Distribution and Habitat: Inhabits nearly all forest habitats within the entire Natchez Trace Parkway.

Special Habitat Requirements: Nest trees over 10 inches dbh.

Breeding: Excavates cavities in snags or live deciduous trees with decaying heartwood.

Food Habits: Primarily consumes wood boring beetles but also eats other insects, fruits, corn, nuts and cambium.

Other information: Most easily found in bottomlands in large mature trees at the edge of the woods.



(*Dryocopus pileatus*)

Status: Common.

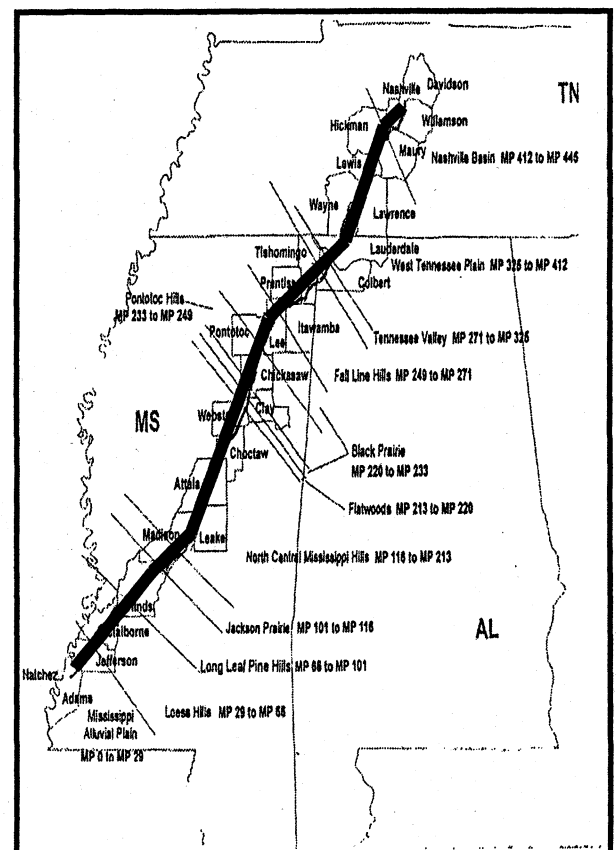
Distribution and Habitat: Occurs in mature forests with large dead trees and near water throughout the Natchez Trace Parkway.

Special Habitat Requirements: Large dead trees for nesting and feeding.

Breeding: Excavates nest holes in dead tree trunks or dead limbs of live trees. They require trees of greater than 15 inches dbh for nest and roosting cavities.

Food Habits: Primary foods are carpenter ants and wood boring beetles but wild fruits, mast and seeds of sumac are also eaten.

Other information: This species may be seen or heard in nearly all areas of mature forest along the Parkway.



Eastern Wood Pewee (EAWP)

(Contopus virens)

Status: Common.

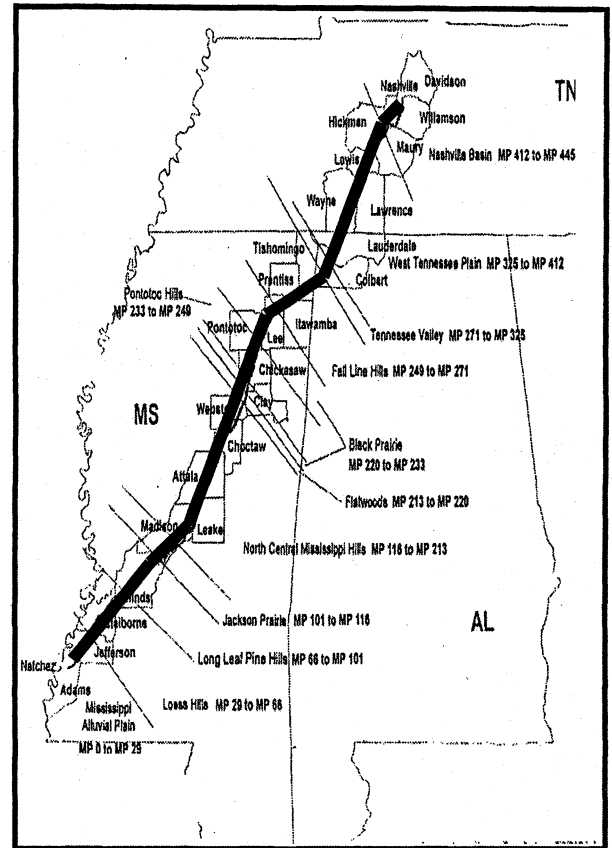
Distribution and Habitat: Generally associated with deciduous forests, preferring an open understory. This species is found throughout the Natchez Trace Parkway.

Special Habitat Requirements: Strongly associated with oaks.

Breeding: Nests are located on a horizontal limb usually well out from the trunk from 9-65 feet above the ground. Nest is often on a dead limb in a living tree and is camouflaged with spider webs and lichens.

Food Habits: Prefers to flycatch in a shady spot in the lower levels of the tree canopy. Eats insects, spiders and some berries and seeds.

Other information: This bird may be found at almost any stop in deciduous forest habitat along the Parkway.



Acadian Flycatcher (ACFL)

(Empidonax virescens)

Status: Uncommon, but widespread.

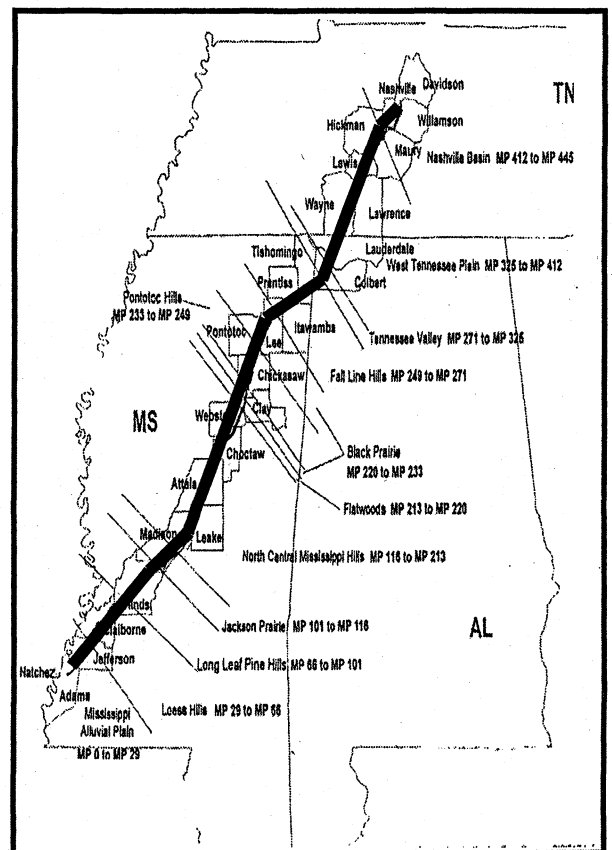
Distribution and Habitat: Occurs in damp lowland forests with an understory or uplands with wooded ravines near streams throughout the Natchez Trace Parkway.

Special Habitat Requirements: Mature, extensive deciduous forests with tall trees, a closed canopy and open spaces in the understory for feeding.

Breeding: Nests on fork of a lower branch of a deciduous tree, well away from the trunk. The nest is usually placed 10-20 feet above the ground, often along a stream or over water. Prefers open space below the nest to approach the nest easily.

Food Habits: Eats insects, some spiders and some seeds and berries.

Other information: Most easily seen along streams.



Eastern Phoebe (EAPH)

(Sayornis phoebe)

Status: Common.

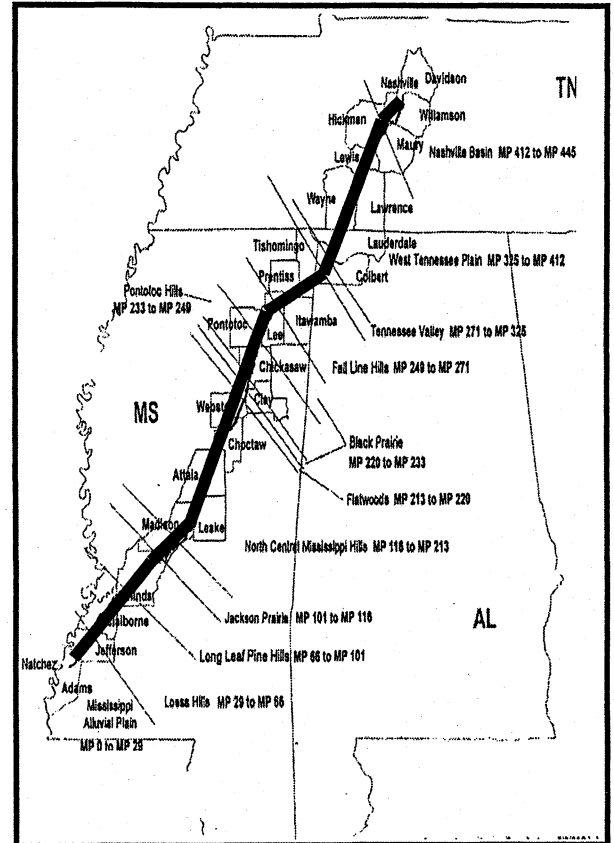
Distribution and Habitat: Occurs in partially wooded habitats near fresh running water throughout the Natchez Trace Parkway.

Special Habitat Requirements: Cliffs or ledges at stream side clearings and perches 5-15 feet high for feeding.

Breeding: Nests on ledges, usually sheltered from above by an overhang. Often uses bridges, building eaves or culverts.

Food Habits: Feeds on insects during the summer and seeds and berries during the winter.

Other information: Often seen feeding or calling from bridges where streams flow under the Parkway road.



Great Crested Flycatcher (GCFL)

(Myiarchus crinitus)

Status: Common.

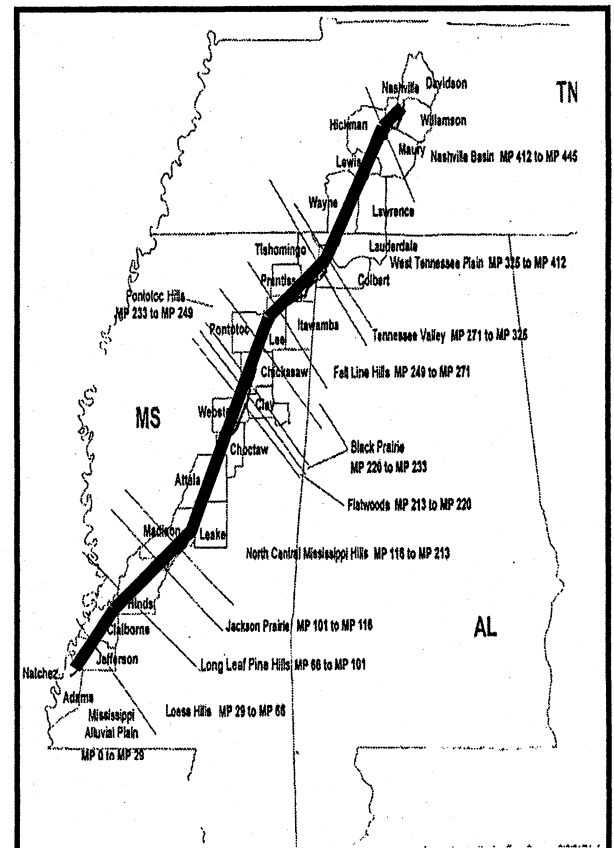
Distribution and Habitat: Occurs in extensive hardwood forests along the length of the Natchez Trace Parkway. Prefers forests with mature trees and fairly open canopies.

Special Habitat Requirements: Cavities in middle aged to mature deciduous trees.

Breeding: Nests in woodpecker holes or natural cavities in live or dead deciduous trees. Nests are placed from 3-75 feet above the ground.

Food Habits: Insects and spiders are gleaned from crevices in the bark of trees. Some fruits are also eaten.

Other information: Easily seen in woods with fairly open canopies along the Parkway.



Eastern Kingbird (EAKI)

(*Tyrannus tyrannus*)

Status: Common.

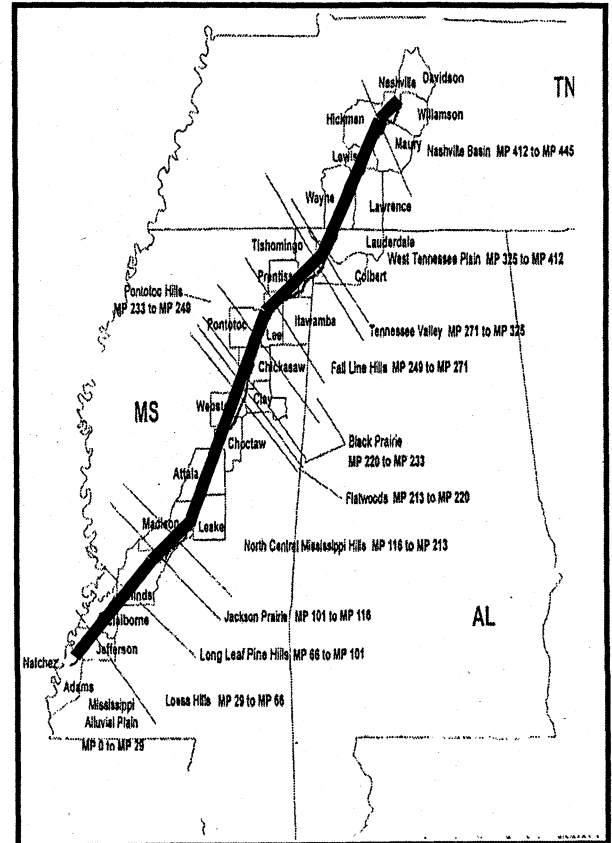
Distribution and Habitat: Frequents open areas with scattered trees or tall shrubs along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Open habitats with perches for flycatching.

Breeding: Nest is built in a crotch of a tree limb, well away from the trunk at a height of 10-60 feet above the ground.

Food Habits: Consumes insects by hawking from a perch an over 40 kinds of fruits.

Other information: This species is commonly found on fence wires near open pasturelands along the Parkway.



Loggerhead Shrike (LOSH)

(*Lanius ludovicianus*)

Status: Uncommon permanent resident.

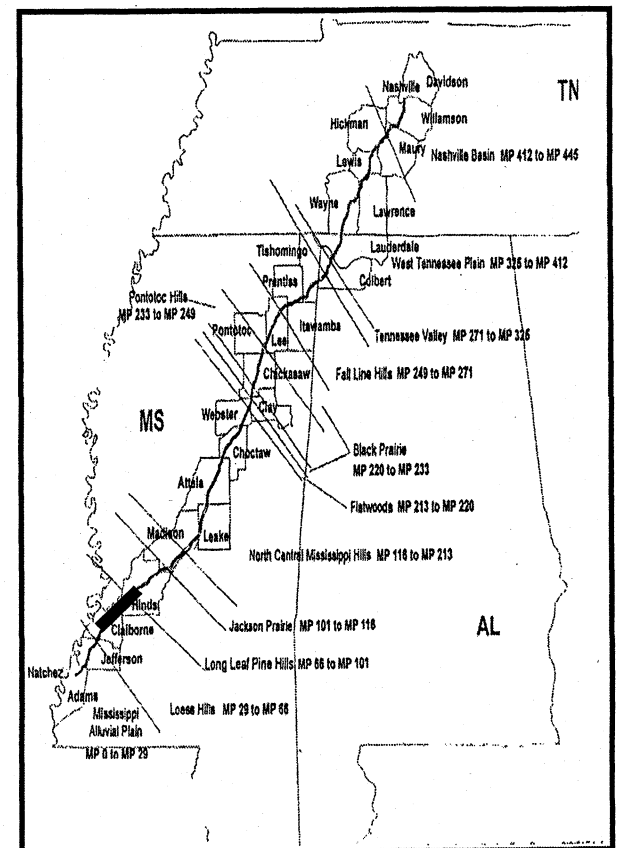
Distribution and Habitat: Inhabits open country with scattered shrubs or small trees along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Thorns or barbed wire fencing with which to impale prey.

Breeding: A bulky, cup shaped nest is built in shrubs or low, dense trees at from 3-25 feet above the ground. Nest is hidden below the crown of the shrub or tree.

Food Habits: Eats mostly insects, but small mammals, birds and reptiles are also taken.

Other information: This declining species is most often seen on roadway signs while hawking for insects.

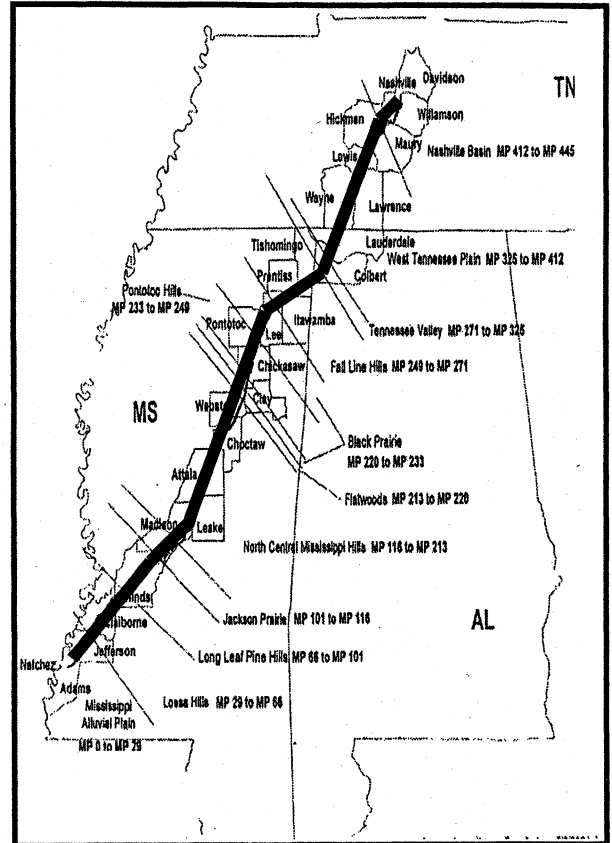


(*Vireo griseus*)

Distribution and Habitat: Inhabits deciduous thickets, woodland edges and dense understory of bottomland woodlands throughout the Natchez Trace Parkway.

Breeding: Builds a cone shaped cup nest, suspended from a forked twig of a low shrub or tree, usually well concealed and from 1-8 feet above the ground.

Other information: Often heard in most deciduous habitats along the Parkway.



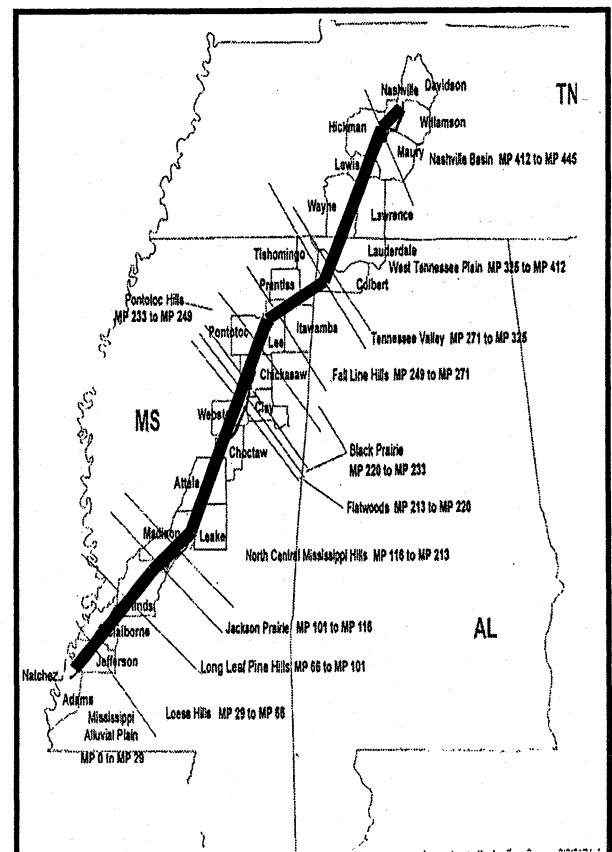
(Vireo flavifrons)

Distribution and Habitat: Occurs in mature, moist deciduous forests throughout the Natchez Trace Parkway.

Breeding: Suspends nest between the forks of a slender branch near the trunk of a deciduous tree at from 30-60 feet above the ground.

Food Habits: Gleans insects, spiders and small snails from branches and foliage. May also eat small fruits and berries.

Other information: Most often heard singing from open deciduous woodlands along the Parkway.



Red-eyed Vireo (REVI)

(Vireo olivaceus)

Status: Common.

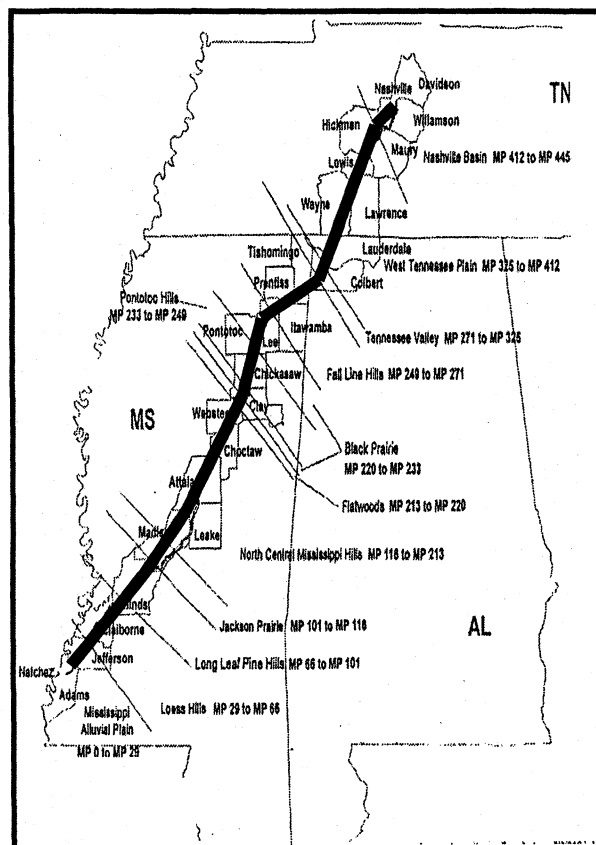
Distribution and Habitat: Inhabits open deciduous and mixed forests with dense understory of saplings throughout the Natchez Trace Parkway.

Special Habitat Requirements: Deciduous trees with dense understory.

Breeding: Suspends deep cup nest from a horizontal fork of a slender branch in dense foliage at from 5-60 feet above ground.

Food Habits: Gleans insects and spiders from leaf surfaces in mid to upper tree canopies. Will also take small snails, wild fruits and berries.

Other information: This bird is commonly heard singing from deciduous woods along the Parkway.



Warbling Vireo (WAVI)

(Vireo gilvus)

Status: Common.

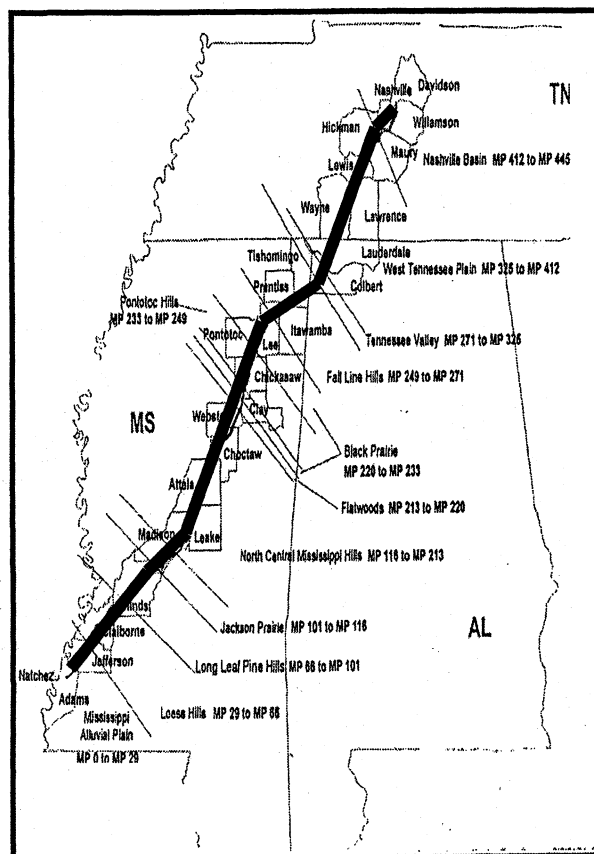
Distribution and Habitat: Inhabits open deciduous or mixed forests, especially streamside vegetation throughout the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Requires scattered deciduous trees with a substantial layer of forbs and shrubs and low canopy cover.

Breeding: Suspends a cup nest from a horizontal branch of a deciduous tree, well away from the trunk and from 20-90 feet high in the tree.

Food Habits: Gleans insects from mid to upper canopy of deciduous trees. Will also eat some small fruits.

Other information: In spring this bird can be found throughout the Parkway, but breeds only in the northern ½ of the Parkway.



Blue Jay (BLJA)

(Cyanocitta cristata)

Status: Common permanent resident.

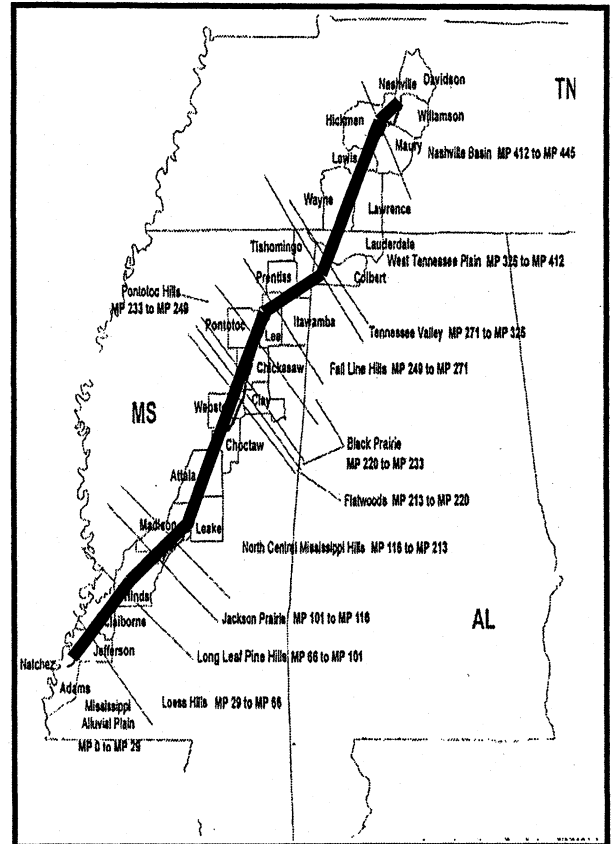
Distribution and Habitat: Inhabits almost every woodland habitat along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Generally associated with oak, beech, hickory or pine trees.

Breeding: Nest is hidden in the fork, crotch or outer branches of trees from 5-50 feet above the ground. Prefers conifer thickets in mixed woodlands for nesting.

Food Habits: Feeds primarily on mast, but also takes grains, weed seeds, insects, young mice and birds, bird eggs, fish, amphibians and crustaceans.

Other information: This bird may be seen almost anywhere along the Parkway.



American Crow (AMCR)

(Corvus brachyrhynchos)

Status: Common permanent resident.

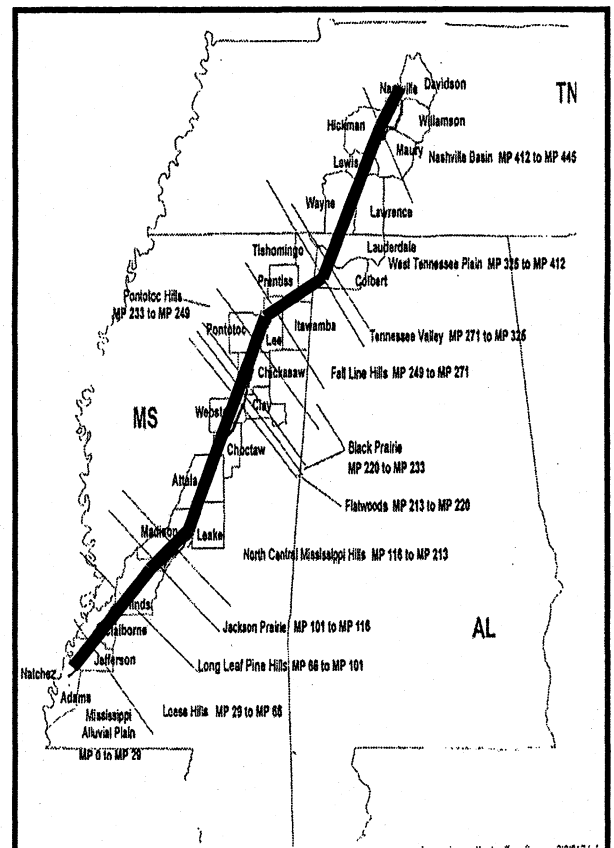
Distribution and Habitat: Occurs in most open or semi open woodland habitats along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Needs open areas such as cultivated or fallow agricultural fields in which to forage.

Breeding: Builds a large platform of sticks on a horizontal branch or in a crotch of the tree near the trunk at from 10-75 feet above the ground.

Food Habits: Eats cultivated grains, seeds, wild and cultivated fruits, nuts, insects, spiders, reptiles, frogs, small mammals, eggs and young of birds and carrion.

Other information: This species may be seen or heard at almost any point along the Parkway.



Fish Crow (FICR)

(*Corvus ossifragus*)

Status: Fairly common permanent resident.

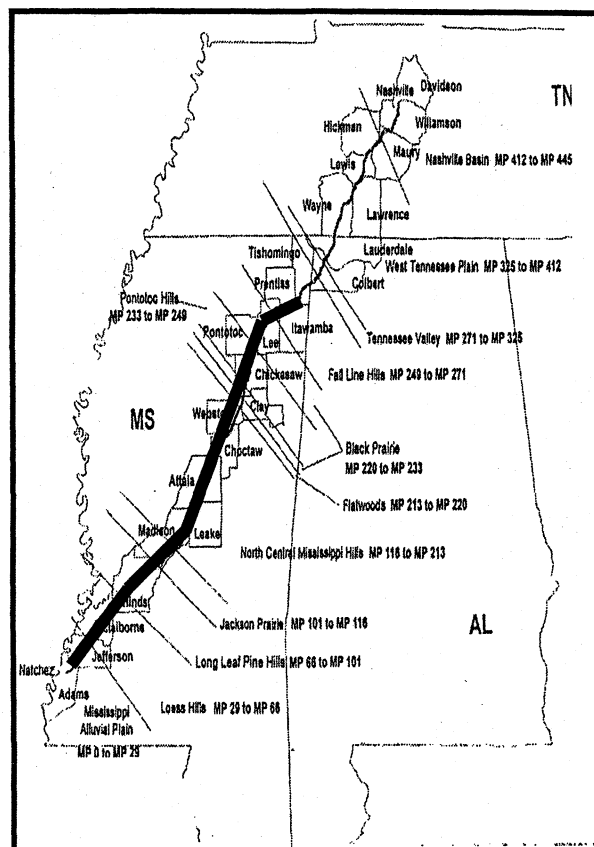
Distribution and Habitat: Occurs in wetlands and forests near rivers and lakes in the southern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Wooded areas near beaches or riverbanks for foraging.

Breeding: Nests singly or in loose colonies of up to four pairs. Nest near the tops of trees, usually pines, at 90-150 feet above the ground.

Food Habits: Gathers food from ground, beaches or riverbanks. Eats crabs, shrimps, stranded or dead fish, insects, eggs and young of birds, small reptiles, wild fruits, seeds and carrion.

Other information: Most easily seen in the area of Ross Barnett Reservoir and larger rivers and streams.



Purple Martin (PUMA)

(*Progne subis*)

Status: Common.

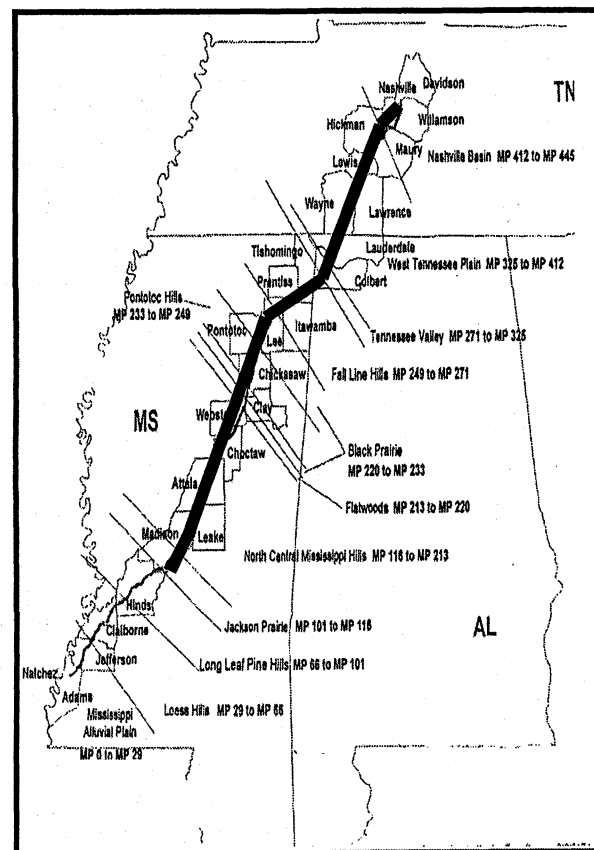
Distribution and Habitat: Inhabits open and cut over woodlands, open grassy areas around shores of lakes, marsh edges and agricultural lands throughout the Natchez Trace Parkway.

Special Habitat Requirements: Large, multiroomed martin houses, tree cavities or abandoned woodpecker holes for nesting and open spaces for foraging.

Breeding: Originally nested in cavities in large snags but is now dependent on man-made martin houses set at 15-20 feet above the ground.

Food Habits: Catches flying insects and spiders on the wing.

Other information: Best seen at martin houses near towns along the Parkway and at some farmsteads.



Cliff Swallow (CLSW)

(Hirundo pyrrhonota)

Status: Common.

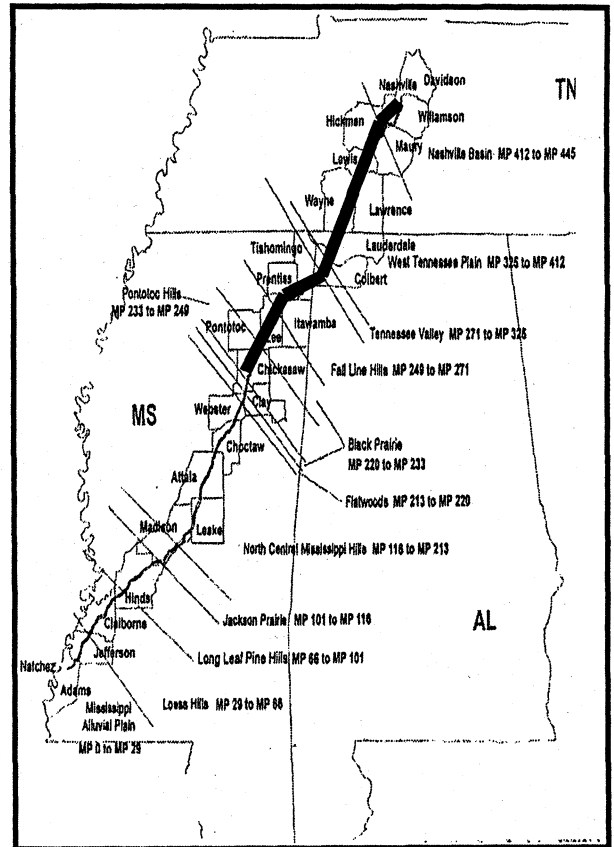
Distribution and Habitat: Occurs over open country around farmyards, towns, bridges and freeway overpasses in the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Requires a vertical substrate with an overhang for nest attachment, a supply of mud, fresh water with a smooth surface for drinking and an open foraging area.

Breeding: Nests in sometimes large colonies. Nest is a gourd-like mud affair built under bridges, eaves of buildings, cliffs or banks.

Food Habits: Consumes insects caught while flying high, often at over 100 feet.

Other information: Most easily seen under the Tennessee River Bridge.



Northern Rough-winged Swallow (NRWS)

(Stelgidopteryx serripennis)

Status: Uncommon.

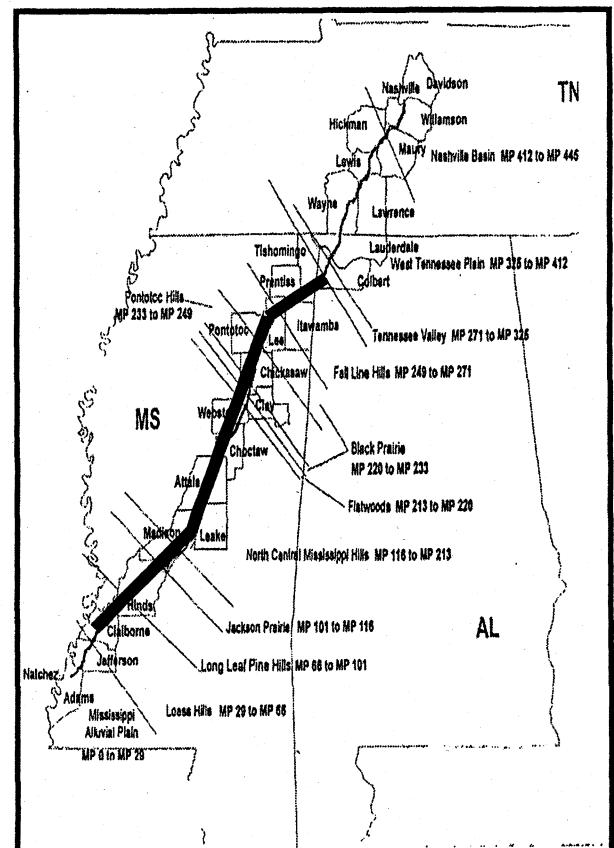
Distribution and Habitat: Inhabits open country and open woodlands where banks near water can be found along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Suitable nesting banks near water are required.

Breeding: Excavates nest in banks of clay, sand or gravel. May nest singly or in scattered groups.

Food Habits: Catches flying insects on the wing.

Other information: Most easily found near streams with steep, sand or clay banks along the Parkway.



Barn Swallow (BARS)

(*Hirundo rustica*)

Status: Common.

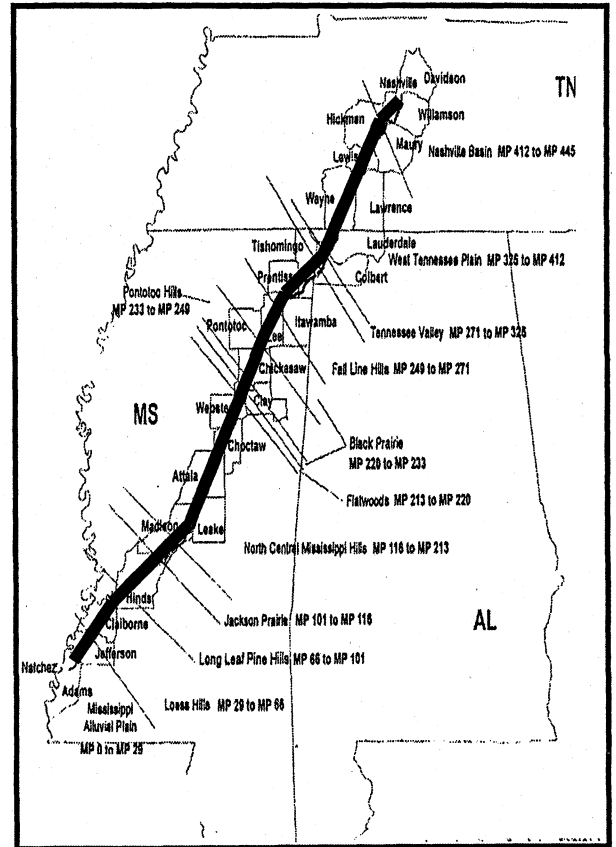
Distribution and Habitat: Occurs virtually throughout the Natchez Trace Parkway but favors farmlands and open forests.

Special Habitat Requirements: Overhead protection, especially buildings, bridges or culverts for nesting.

Breeding: Colonial nesters on horizontal beams or ledges inside barns and other buildings, under bridges or culverts.

Food Habits: Feeds over water or fields, catching insects on the wing.

Other information: These birds may be seen in open areas near any farm along the length of the Parkway.



Tufted Titmouse (ETTI)

(*Parus bicolor*)

Status: Common.

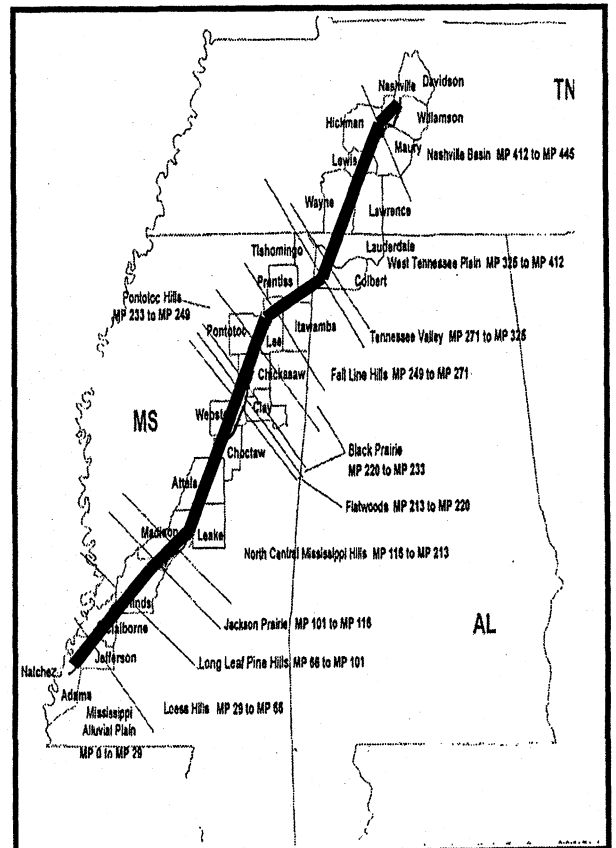
Distribution and Habitat: This bird inhabits all major habitats located on the Natchez Trace Parkway.

Special Habitat Requirements: Natural cavities or woodpecker holes for nesting.

Breeding: Nests in natural tree cavities or old woodpecker holes from 3-90 feet above the ground.

Food Habits: Feeds primarily on insects but also eats snails, spiders, berries, seeds and some mast.

Other information: This is the most numerous and widespread species on the Parkway and can usually be heard at any point along the Parkway.



Carolina Chickadee (CACH)

(*Parus carolinensis*)

Status: Common.

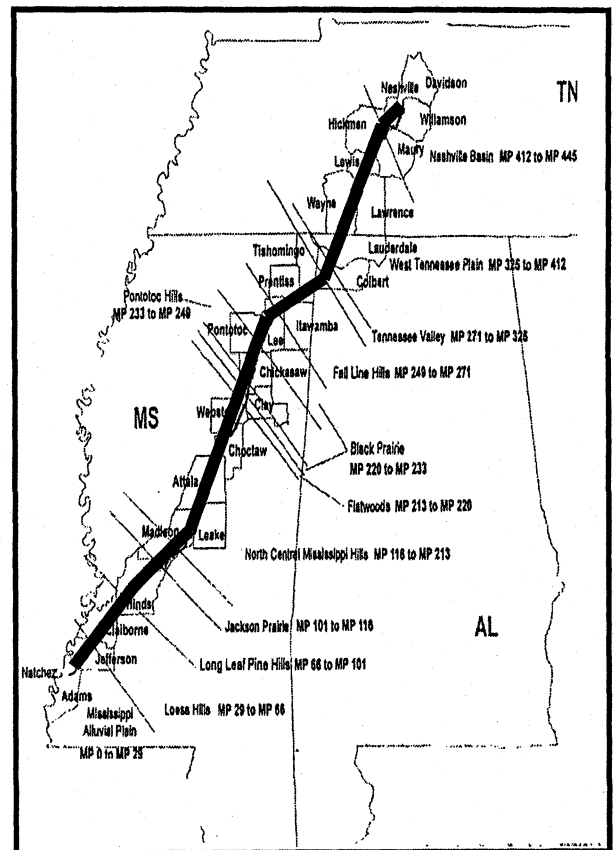
Distribution and Habitat: Inhabits all woodland habitats on the Natchez Trace Parkway, preferring forest edge habitats.

Special Habitat Requirements: Standing dead trees for excavating cavities.

Breeding: Nest holes are excavated from dead trees or dead limbs of live trees. They occasionally nest in old woodpecker holes or natural cavities.

Food Habits: Forages from the ground to the tree tops for a variety of insects, conifer seeds and fruits.

Other information: May be seen or heard in most wooded areas near water along the Parkway.



Brown Creeper (BRCR)

(*Certhia americana*)

Status: Inconspicuous, uncommon winter visitant.

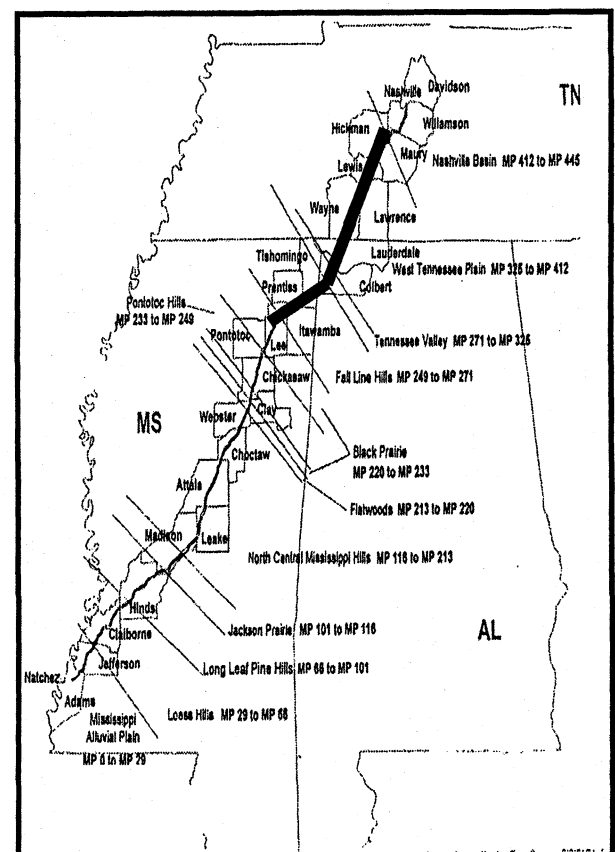
Distribution and Habitat: Occurs in dense woodlands and wooded swamps throughout the Natchez Trace Parkway in winter.

Special Habitat Requirements: Dead trees with loose bark.

Breeding: Constructs nest between loose bark and the trunk of live, dead or dying trees from 5-15 feet above the ground. Probably does not nest along the Parkway.

Food Habits: Explores tree trunks and branches for insects and larvae. Also eats a small amount of mast.

Other information: This inconspicuous bird is more often heard than seen and can be found in large areas of dense woods in the winter.



(*Sitta carolinensis*)

Status: Common permanent resident.

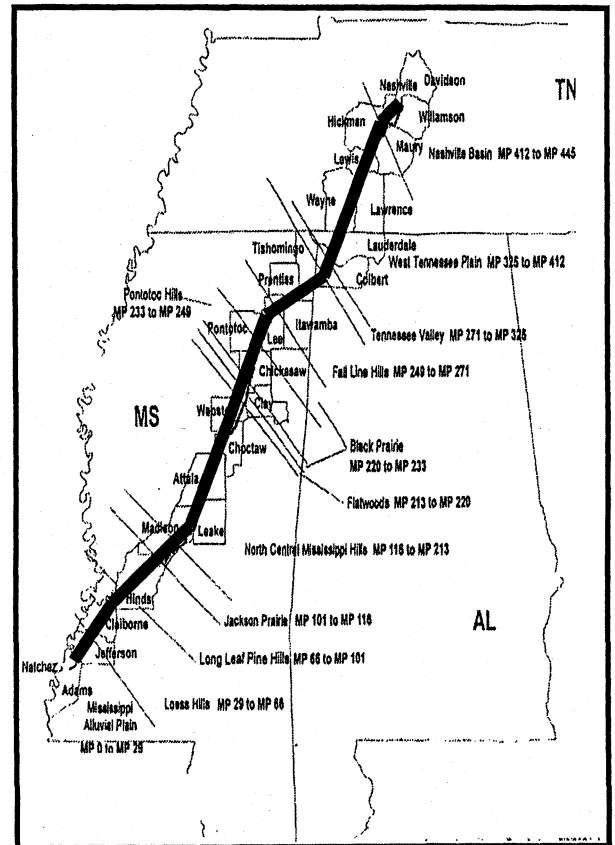
Distribution and Habitat: Occurs in nearly all forested habitats along the length of the Natchez Trace Parkway. Also occurs in partly open situations with scattered trees.

Special Habitat Requirements: Natural tree cavities for nesting, preferably in trees with a minimum dbh of 12 inches.

Breeding: Nest is in natural cavities in living, dead or dying trees at any height.

Food Habits: Gleans insects from the bark of tree trunks or limbs and searches for seeds and mast on the ground.

Other information: Easiest to see this species at the various picnic stop areas along the Parkway.



Red-breasted Nuthatch (RBNU)

(*Sitta canadensis*)

Status: Uncommon winter visitant.

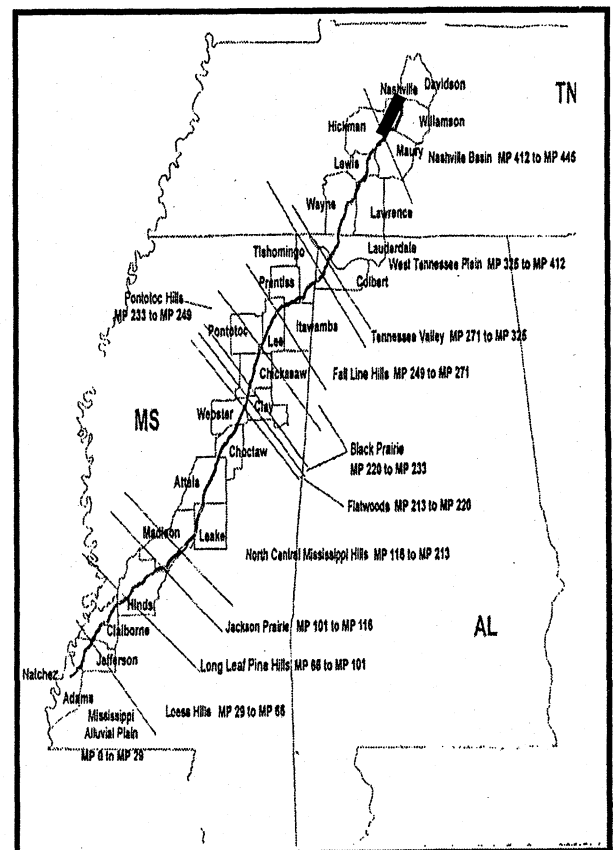
Distribution and Habitat: Occurs primarily in coniferous forests, but sometimes occurs in mixed and deciduous woodlands. Most common in the northern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Cavities in trees or soft dead wood for cavity excavation.

Breeding: Nests in natural cavities or old woodpecker holes at from 5-40 feet above the ground. This species probably does not breed on the Parkway.

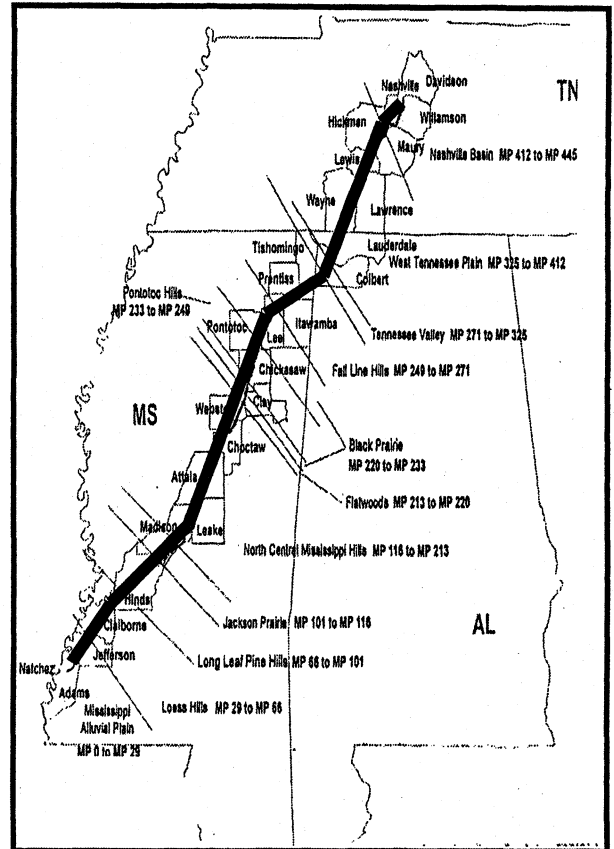
Food Habits: Pries open conifer cone scales and removes seeds. Also eats spiders and some insects.

Other information: Most easily observed in pine forests in Tennessee portions of the Parkway in winter.



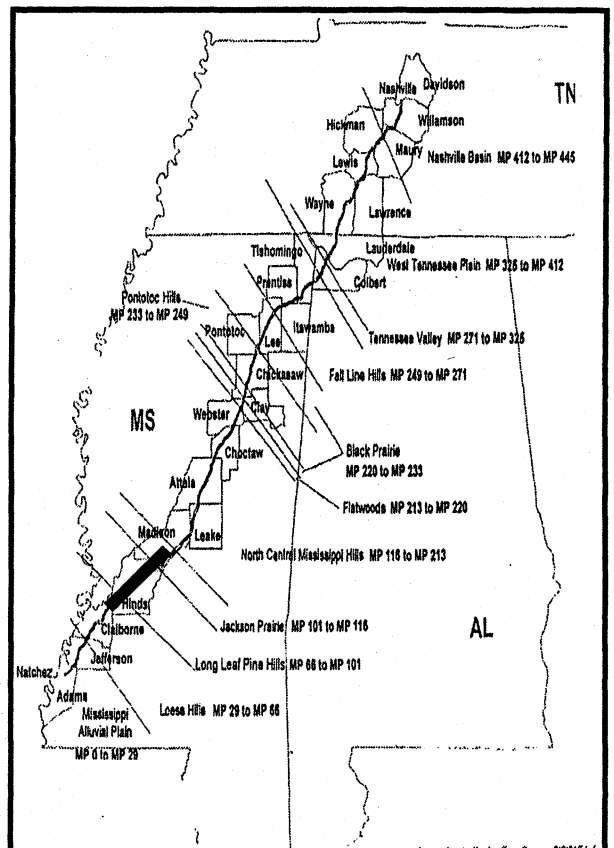
(*Sitta pusilla*)

Other information: You must be at the right place at the right time to see these erratic wanderers.



(Troglodytes aedon)

Other information: This species is inconspicuous in the winter and is found only by chance.



Winter Wren (WIWR)

(Troglodytes troglodytes)

Status: Uncommon winter visitant.

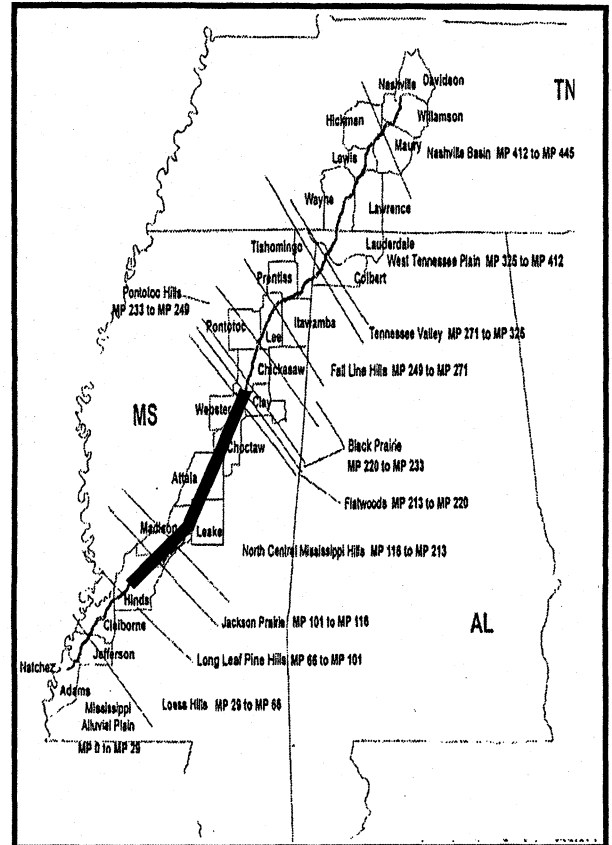
Distribution and Habitat: Generally occurs in dense undergrowth of coniferous forests near water throughout the Natchez Trace Parkway in winter.

Special Habitat Requirements: Moist coniferous woodlands with low woody vegetation.

Breeding: Nests under upturned tree roots, stumps or hollow logs. This species does not breed on the Parkway.

Food Habits: The entire diet is comprised of insects and spiders gleaned from the ground.

Other information: This secretive species will generally be seen only by accident on the Parkway.



Carolina Wren (CARW)

(Thryothorus ludovicianus)

Status: Common permanent resident.

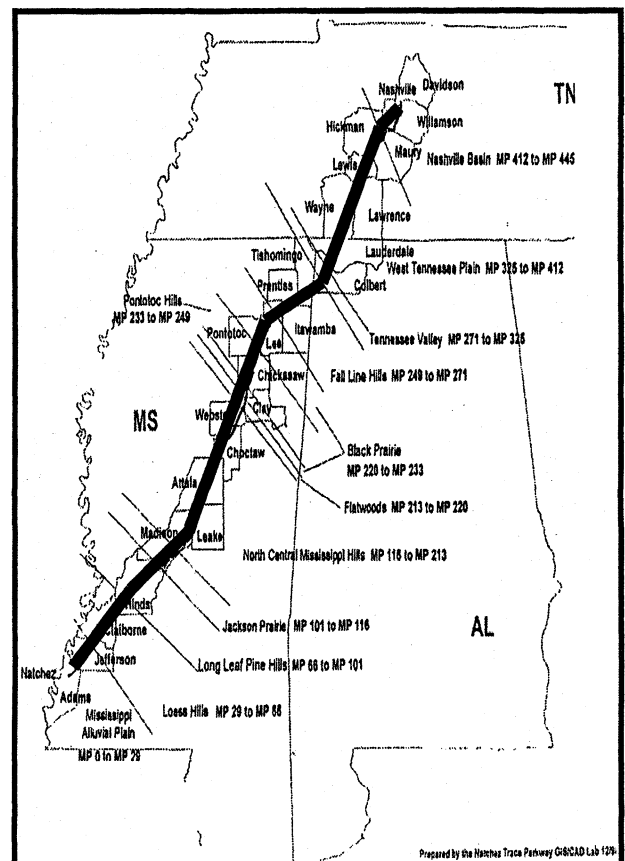
Distribution and Habitat: Occurs in a variety of habitats including lowland streamside tangles, upland brushy slopes and woodland edges, especially in moist areas with thickets. It can be found along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Low, brushy vegetation.

Breeding: Typically nests in tree cavities, overturned root cavities, under rocks and in building crevices, usually less than 10 feet off of the ground.

Food Habits: Diet is mostly insects gleaned from trees, shrubs and the ground but snails, lizards, berries and seeds are also taken.

Other information: Often heard singing from brushy areas along the Parkway.



Bewick's Wren (BEWR)

(Thryomanes bewickii)

Status: Uncommon.

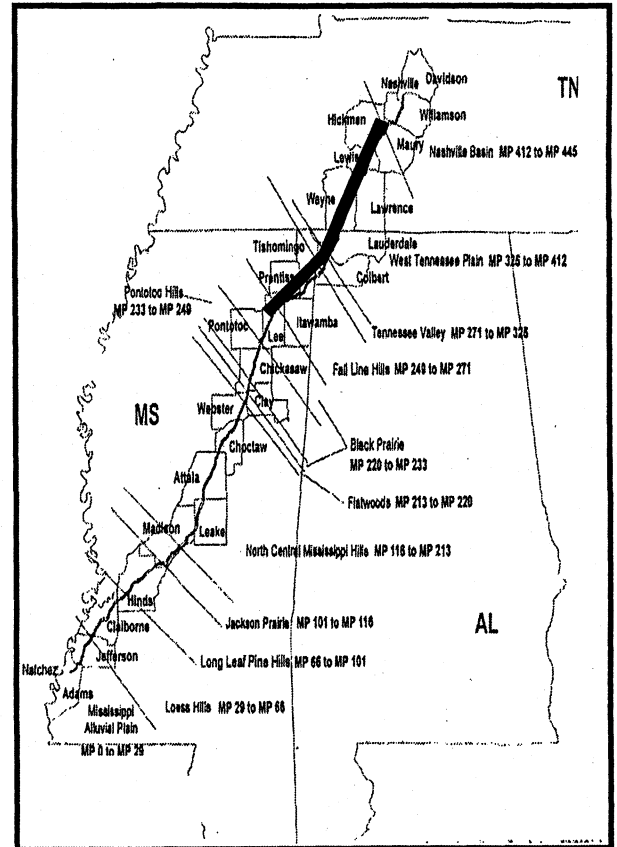
Distribution and Habitat: Generally associated with dense, brushy habitats in the northern 1/2 of the Natchez Trace Parkway.

Special Habitat Requirements: A brushy understory and cavities for nesting.

Breeding: Nests near the ground in secluded tree cavities or rock crevices.

Food Habits: Gleans small insects and spiders from low trunks and branches of trees and brush.

Other information: This rare bird is usually found only by its sound in brushy areas of the northern Parkway.



Golden-crowned Kinglet (GCKI)

(Regulus satrapa)

Status: Uncommon winter visitant.

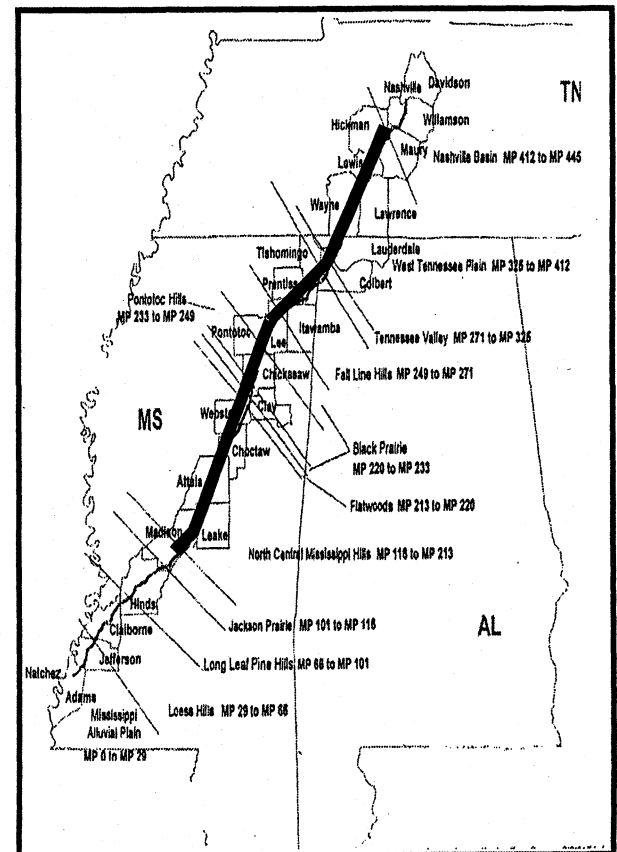
Distribution and Habitat: Winters in coniferous forests and occasionally in deciduous woodland scrub and brush throughout the Natchez Trace Parkway.

Special Habitat Requirements: Generally requires coniferous forests.

Breeding: A globular nest is woven into the twigs of a horizontal limb of a conifer. This species does not breed on the Parkway.

Food Habits: Feeds almost entirely on insects and their eggs.

Other information: Commonly seen in flocks of other species such as chickadees or titmice during the winter.



Ruby-crowned Kinglet (RCKI)

(Regulus calendula)

Status: Uncommon winter visitant.

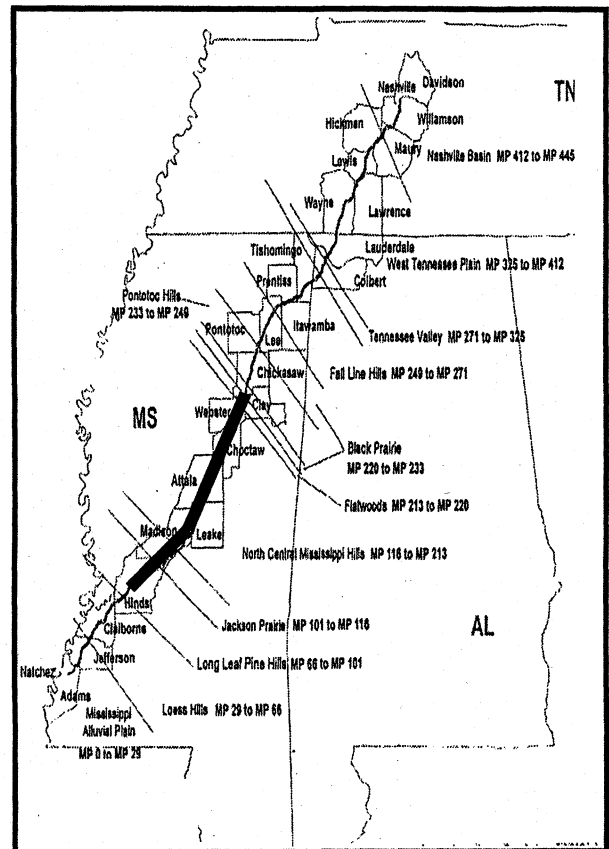
Distribution and Habitat: Occurs in coniferous or mixed forest along the length of the Natchez Trace Parkway during the winter.

Special Habitat Requirements: Requires conifers in its habitat.

Breeding: Attaches nest to pendent twigs beneath a horizontal conifer branch from 16-60 feet above the ground.

Food Habits: Food consists mainly of insects and spiders, but it also will eat some elderberries and weed seeds.

Other information: Most often found with small flocks of chickadees or titmice in coniferous habitats during the winter along the Parkway.



Blue-gray Gnatcatcher (BGGN)

(Polioptila caerulea)

Status: Common.

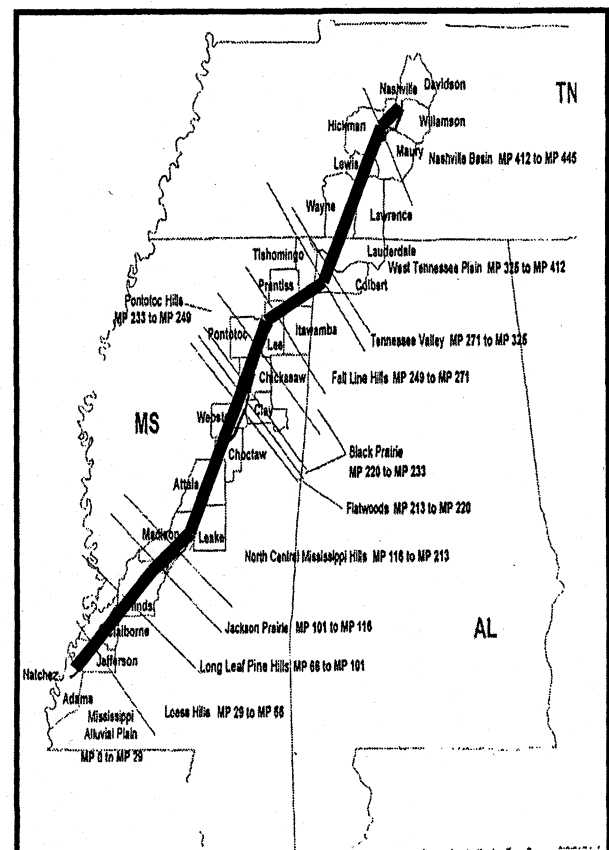
Distribution and Habitat: Occurs in forested river bottoms, upland pine woods with oak understory and areas of closed canopy along river and stream floodplains along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: An abundant supply of arthropods.

Breeding: Nest is placed on a horizontal limb 4-70 feet high in a tree. Deciduous oaks are the preferred nesting tree.

Food Habits: Food consists entirely of arthropods, primarily insects and spiders.

Other information: This species is often seen or heard near streams along the Parkway.



Eastern Bluebird (EABL)

(*Sialia sialis*)

Status: Common permanent resident.

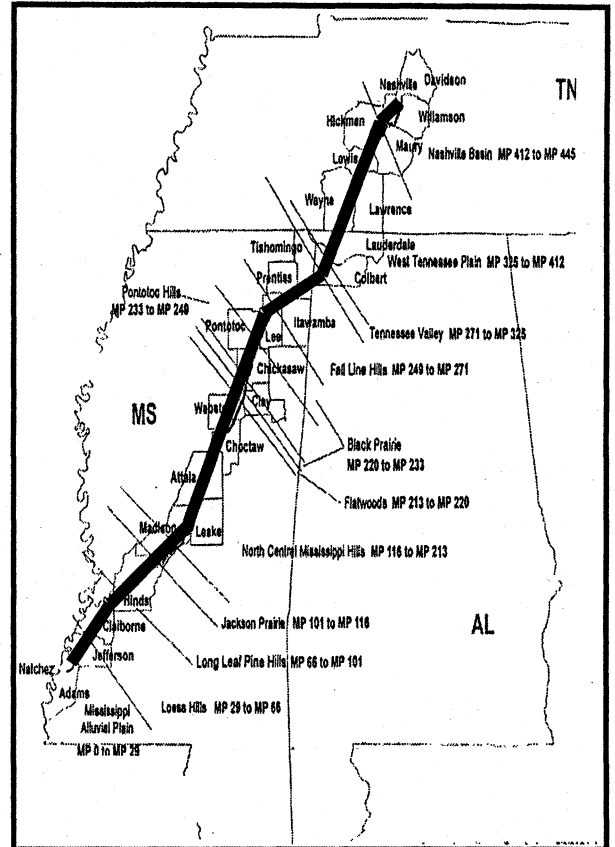
Distribution and Habitat: Inhabits fields, forest edges, open woodlands and open country with scattered trees throughout the Natchez Trace Parkway.

Special Habitat Requirements: Low cavities for nesting and perches for foraging.

Breeding: Nests in old woodpecker holes, hollows of decayed trees, crevices in rocks and in artificial nest boxes placed in open areas at the edge of woods.

Food Habits: Catches insects and spiders by hawking and consumes fruits and some seeds during the winter.

Other information: Many local people put out nest boxes for these birds. They are easily seen in the vicinity of these boxes during the breeding season.



Wood Thrush (WOTH)

(*Hylocichla mustelina*)

Status: Common.

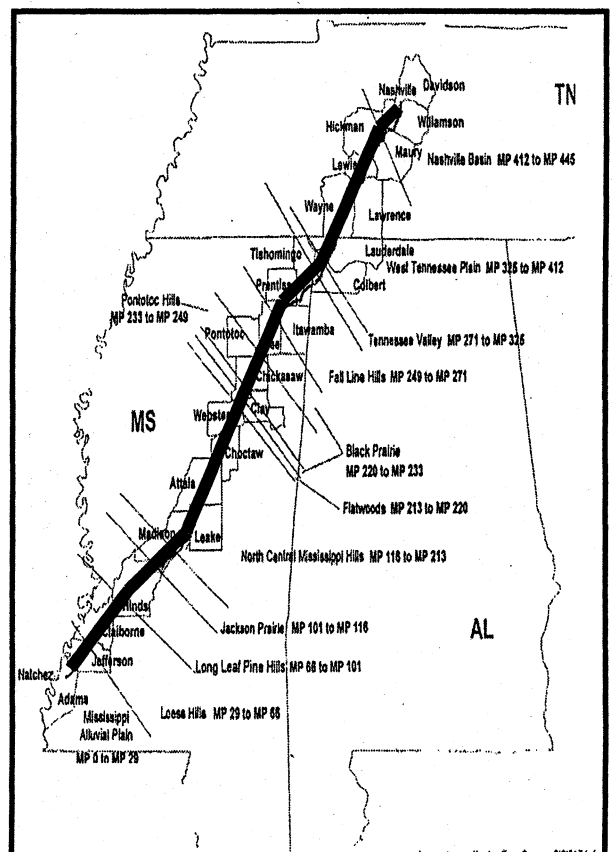
Distribution and Habitat: Inhabits moist, cool, mature, lowland deciduous or mixed forests throughout the Natchez Trace Parkway.

Special Habitat Requirements: Deciduous or mixed forests with tall trees.

Breeding: A compact cup nest is built on a horizontal limb, in a fork of a sapling or tree from 6-50 feet above ground.

Food Habits: Eats insects, spiders, snails, earthworms and berries.

Other information: Often heard in early morning in areas of moist, cool forests along the Parkway.



Hermit Thrush (HETH)

(*Catharus guttatus*)

Status: Common winter visitant.

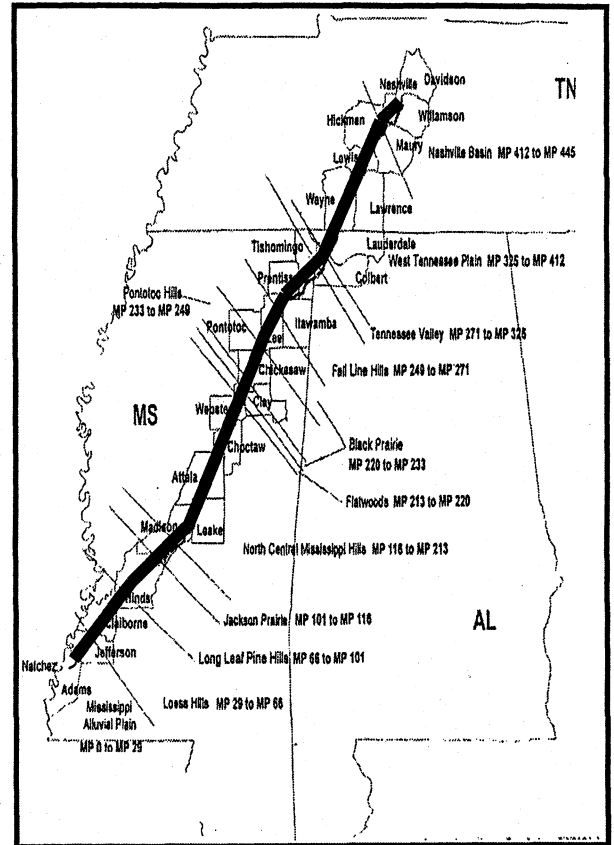
Distribution and Habitat: Inhabits all woodland habitats with intermediate to high canopy coverage along the Natchez Trace Parkway. It prefers riparian situations.

Special Habitat Requirements: Relatively undisturbed, rather dense forests.

Breeding: Nest is built on the ground in a depression, under rock ledges or under low overhanging limbs. This species does not nest on the Parkway.

Food Habits: Eats insects, spiders, snails, earthworms, and wild fruits.

Other information: Can be heard calling from dense woods along the Parkway early in the morning.



American Robin (AMRO)

(*Turdus migratorius*)

Status: Common permanent resident.

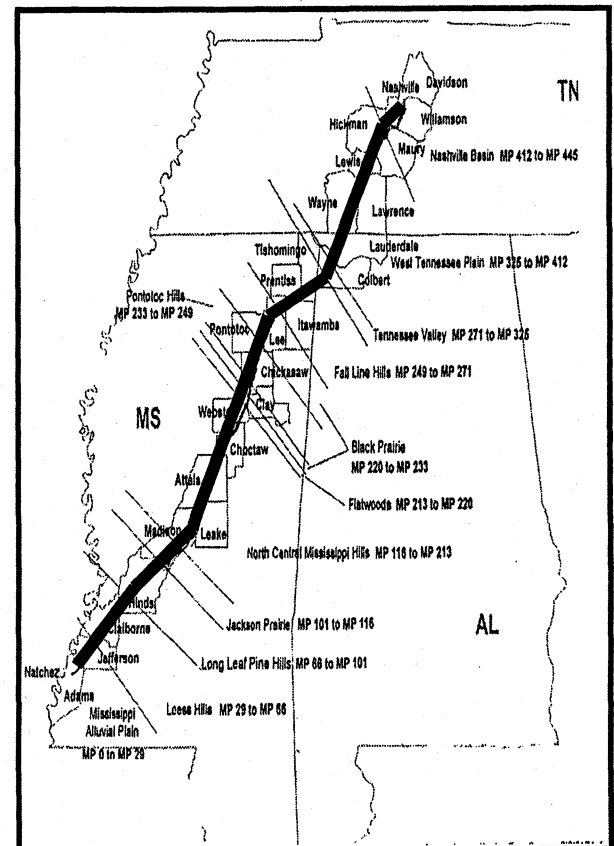
Distribution and Habitat: Occurs in nearly all habitats along the length of the Natchez Trace Parkway, but prefers open areas on the edge of woodland habitats.

Special Habitat Requirements: Mud for nest building.

Breeding: Places nest, constructed of mud and vegetation, on almost any substantial support, usually in a fork or on a horizontal branch of a shrub or tree.

Food Habits: Feeds on the ground, searching for almost any edible substance (42% animal, 58% vegetable), but will pick fruits from trees or shrubs.

Other information: This species may be seen at many of the pull overs along the parkway, especially those with woods bordering open fields.



Gray Catbird (GRCA)

(*Dumetella carolinensis*)

Status: Common.

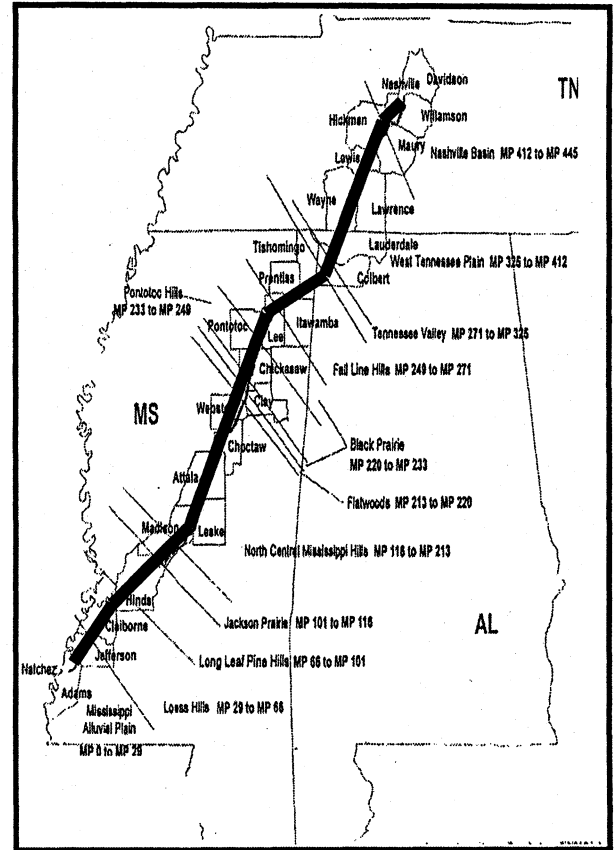
Distribution and Habitat: Occurs in dense thickets of shrubby edge habitat throughout the Natchez Trace Parkway.

Special Habitat Requirements: Low, dense, shrubby vegetation.

Breeding: Nest is hidden about 3-10 feet above the ground in almost any dense woody vegetation.

Food Habits: Diet is made up of insects and fruits.

Other information: This bird is heard more often than seen and can be found in edge thickets throughout the Parkway.



Northern Mockingbird (NOMO)

(*Mimus polyglottos*)

Status: Common permanent resident.

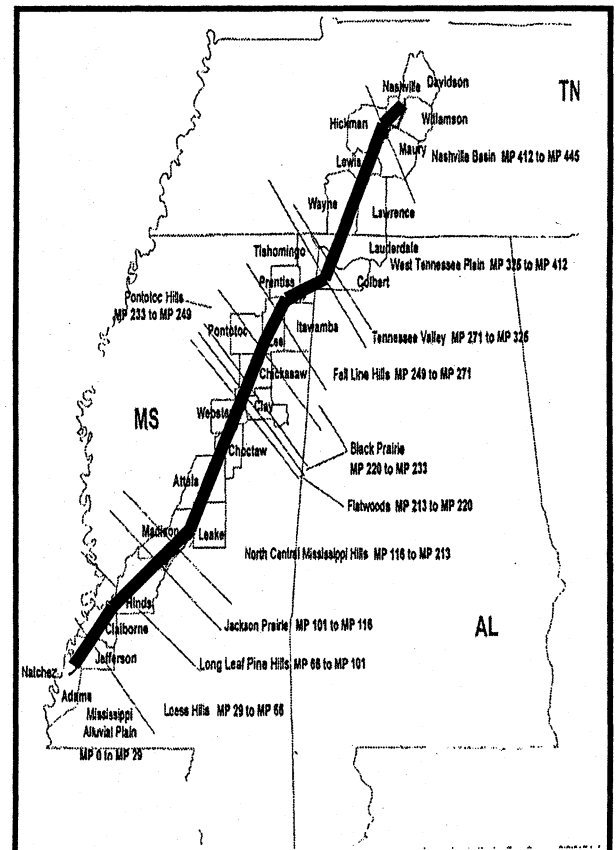
Distribution and Habitat: Occurs in a variety of open to partly open habitats such as isolated shrub patches and trees in open fields, woodland edges and pastures with scattered fruit bearing trees along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Low dense, woody vegetation, elevated perches and a variety of persistent edible fruits.

Breeding: Nest is placed in a fork or on a limb of a small tree, shrub or vine (usually evergreen) from 3-10 feet above the ground.

Food Habits: Gleans insects from the ground and foliage or hawks them from the air. Fruits are eaten in the fall and winter.

Other information: This bird may be observed singing near towns and farmsteads along the Parkway.



Brown Thrasher (BRTH)

(*Toxostoma rufum*)

Status: Common permanent resident.

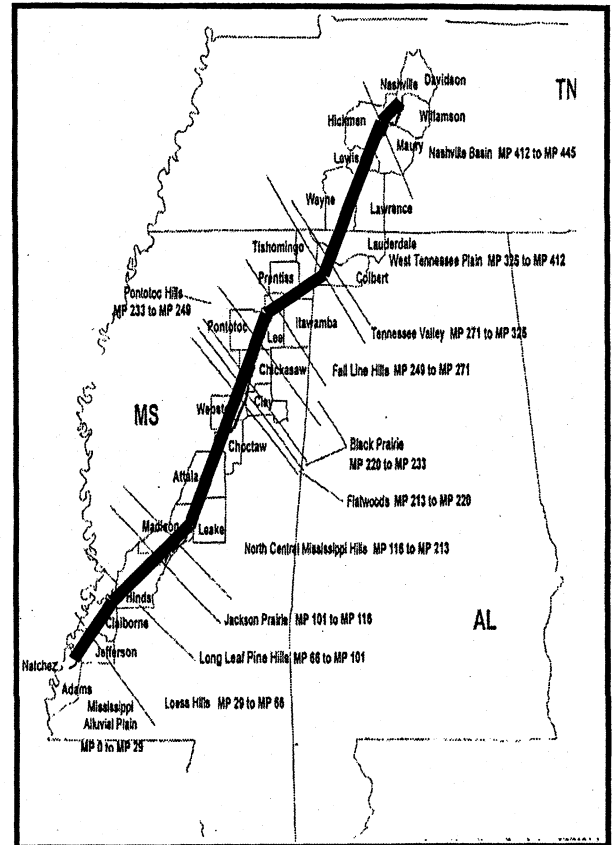
Distribution and Habitat: Inhabits dry thickets in wooded habitats and farm country, brushy pastures, second growth woods and roadside edge habitats throughout the Natchez Trace Parkway.

Special Habitat Requirements: Low, dense, woody vegetation for nesting and cover.

Breeding: Builds a bulky nest in a variety of shrubs (usually thorny) or small trees up to 14 feet above the ground.

Food Habits: Eats insects, spiders, worms, fruits, mast and waste corn.

Other information: Often seen along the Parkway in spring, usually gleaning food from the ground near the forest edge.



European Starling (EUST)

(*Sturnus vulgaris*)

Status: Uncommon permanent resident.

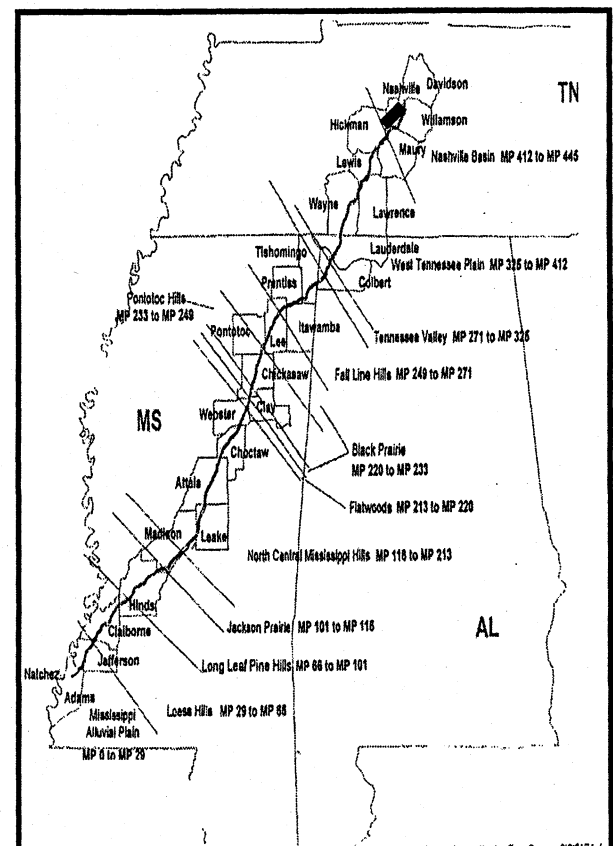
Distribution and Habitat: Appears to favor thickly settled agricultural and urban areas along the Natchez Trace Parkway.

Special Habitat Requirements: Cavities for nesting.

Breeding: Nests in old woodpecker holes or natural cavities in trees.

Food Habits: Food consists of insects, domestic and wild fruits and grains.

Other information: Not as common as one would believe on the Parkway, it is most easily observed in the farm country of the northern Parkway.



Cedar Waxwing (CEDW)

(*Bombycilla cedrorum*)

Status: Uncommon winter visitant.

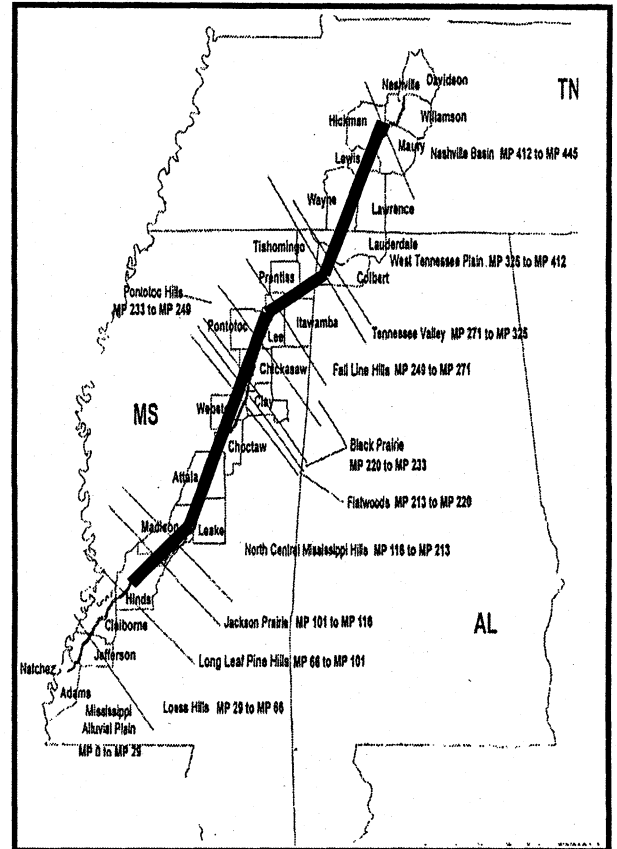
Distribution and Habitat: Can be found almost anywhere that trees and shrubs with persistent fruits are present along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Fruit and berry producing trees and shrubs.

Breeding: Nests are built semicolonially in dense coniferous thickets from 4-50 feet above the ground. This species probably does not breed along the Parkway.

Food Habits: Insects caught by hawking or gleaning and fruits and berries.

Other information: Usually seen in flocks near areas with berry thickets. Easiest to find in the northern ½ of the Parkway.



Prothonotary Warbler (PROW)

(*Protonotaria citrea*)

Status: Uncommon.

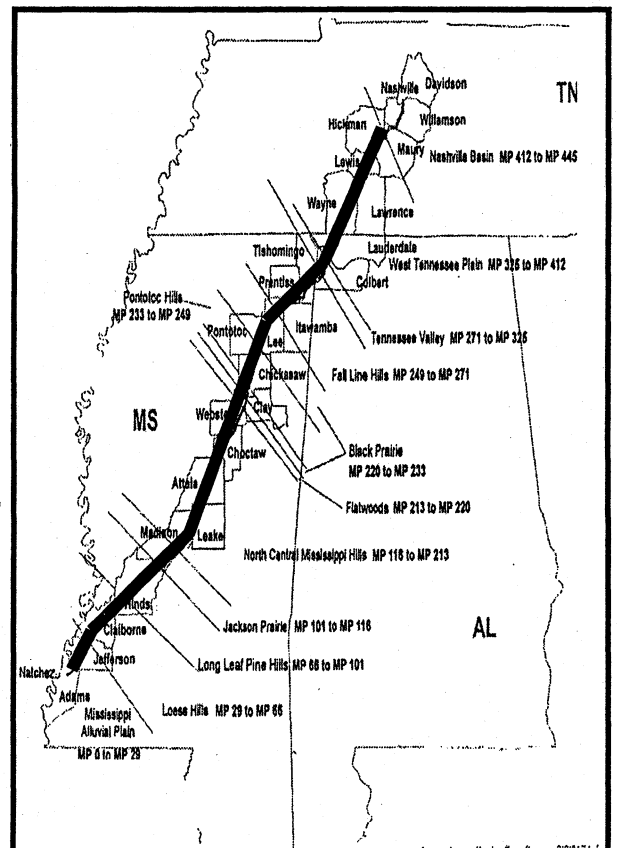
Distribution and Habitat: Occurs in moist bottomland or swampy deciduous woods, including woods that are frequently flooded along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Moist woodlands with cavities for nesting.

Breeding: Nests in natural cavities and old woodpecker or chickadee holes at about 5 feet above the ground.

Food Habits: Eats insects gleaned from tree trunks and branches.

Other information: Most easily observed in swampy areas with trees that have been broken off by tornado or wind.



Blue-winged Warbler (BWVA)

(*Vermivora pinus*)

Status: Uncommon.

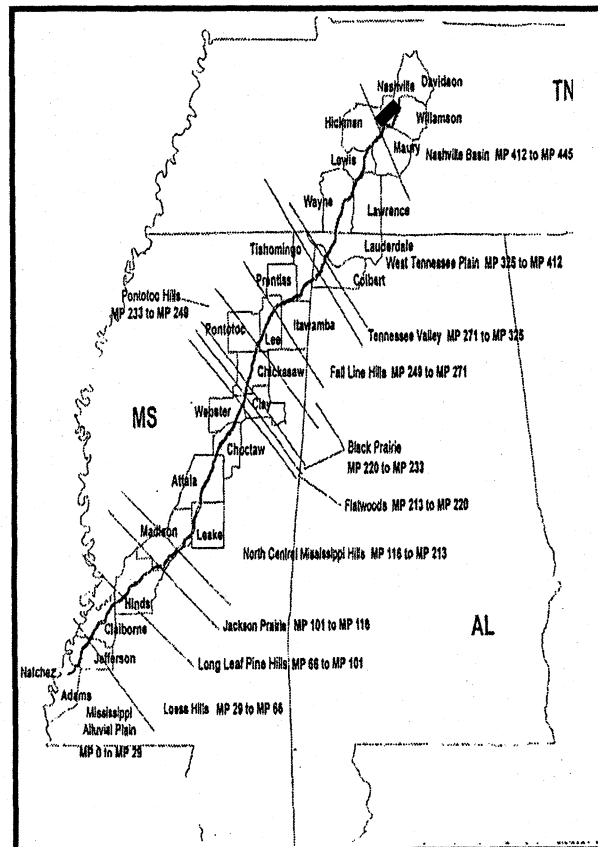
Distribution and Habitat: Occurs in moist habitats near the borders of swamps or streams, brushy, overgrown fields and second growth woodlands in the northernmost portions of the Natchez Trace Parkway.

Special Habitat Requirements: Brushy habitats near water.

Breeding: Nest is built on the ground, attached to upright stems of weeds, ferns or grasses.

Food Habits: Gleans insects and spiders from leaves and branches near the tops of trees.

Other information: This species is easily observed in the environs of the Garrison Creek Picnic Area.



Northern Parula (NOPA)

(*Parula americana*)

Status: Uncommon.

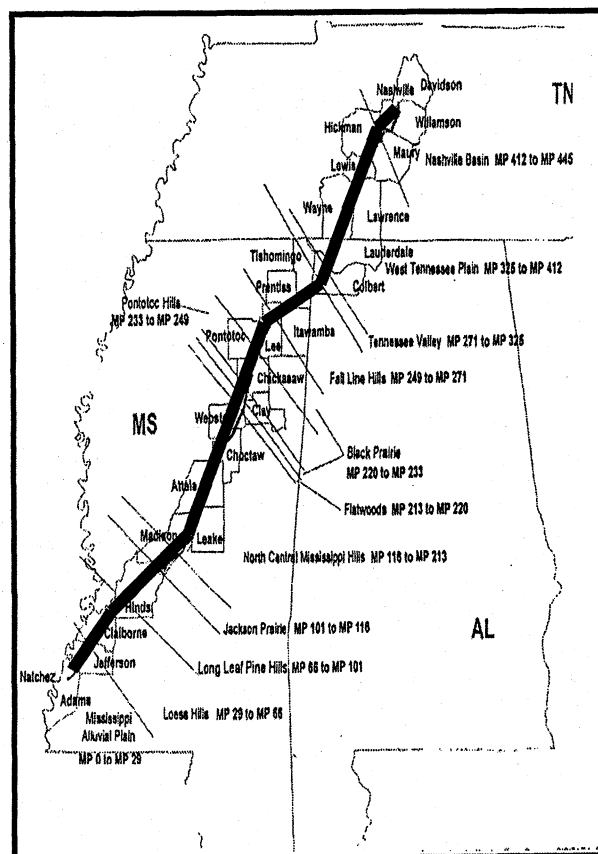
Distribution and Habitat: Occurs in swampy woods, especially mature woodlands where mosslike lichens or Spanish moss are located throughout the Natchez Trace Parkway.

Special Habitat Requirements: Bearded lichen (*Usnea*) or Spanish moss (*Tillandsia*) for nesting material and nest sites.

Breeding: Nest is suspended near the tip of a tree limb covered with lichen or Spanish moss at heights averaging 10 feet. Nest is constructed out of and concealed with the moss or lichen.

Food Habits: Insects and spiders are gleaned from twigs and foliage.

Other information: Most easily observed in the southern ½ of the Parkway in areas where Spanish moss is in evidence from the road.



Yellow-rumped (Myrtle) Warbler (MYWA)

(*Dendroica coronata*)

Status: Common winter visitant.

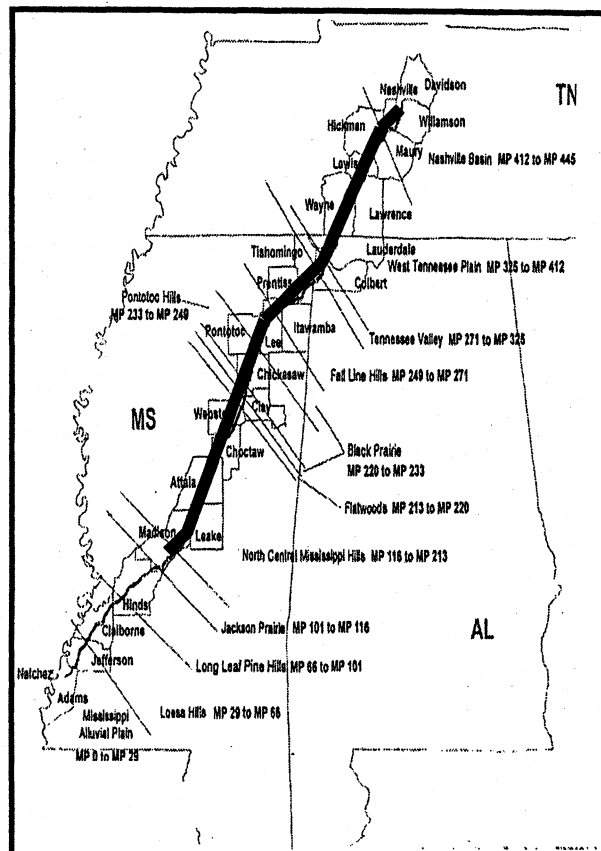
Distribution and Habitat: Occurs in young coniferous growth near the edges of woods and evergreen plantations along the Natchez Trace Parkway.

Special Habitat Requirements: Coniferous trees.

Breeding: Nests well out on horizontal limbs of conifer trees from 4-50 feet above the ground. This species does not nest along the Parkway.

Food Habits: Eats insects and berries.

Other information: This quiet bird is sometimes seen hawking insects near pine plantations along the Parkway during the winter.



Black and White Warbler (BAWW)

(*Mniotilta varia*)

Status: Common.

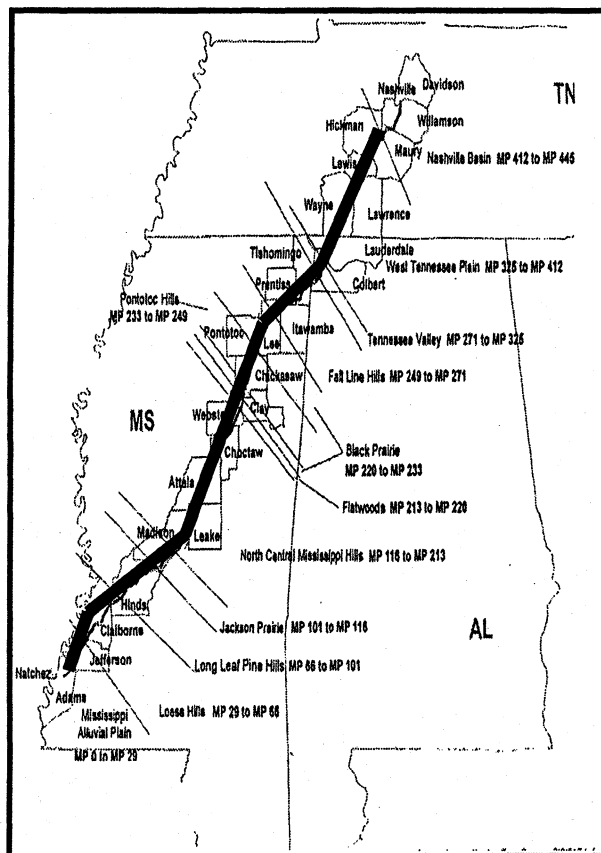
Distribution and Habitat: Occurs in mature and second growth forests composed of immature and scrubby trees throughout the Natchez Trace Parkway.

Special Habitat Requirements: Semiopen upland stands of deciduous or mixed forests with scrubby trees.

Breeding: Nests in a slight depression in the ground, usually at the base of a tree or stump.

Food Habits: Eats insects and spiders gleaned from tree trunks and larger tree limbs.

Other information: This bird hunts nuthatch style up and down the trunks of trees. Often seen exhibiting this behavior in mixed woods along the Parkway.



Cerulean Warbler (CERW)

(*Dendroica cerulea*)

Status: Uncommon.

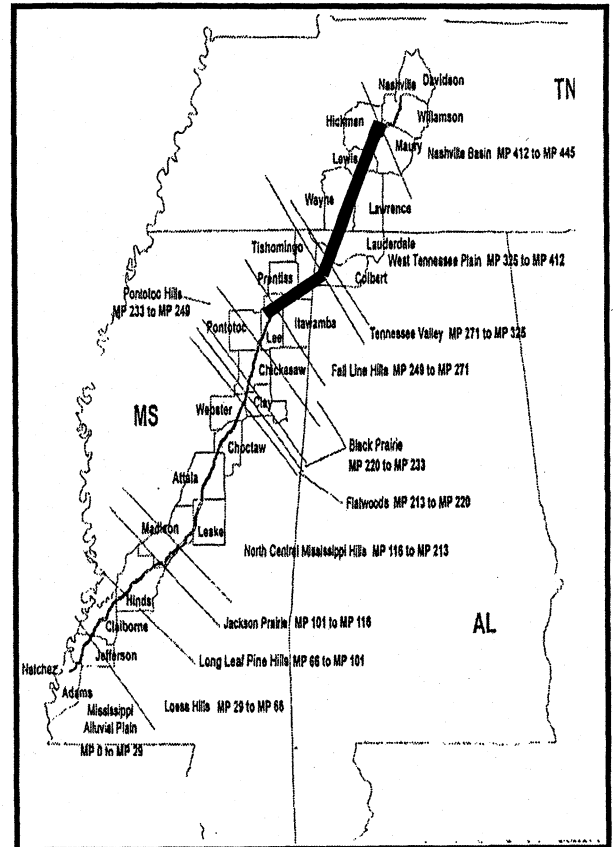
Distribution and Habitat: Inhabits moist deciduous swamp and bottomland forest and mature upland woods in the northern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Requires rather open forest with tall trees and little undergrowth.

Breeding: Nest at from 15-90 feet above the ground in tall trees, well away from the trunk on horizontal branches that are free from vegetation below.

Food Habits: Eats insects gleaned from leaves or caught in the air.

Other information: This species is hard to find and is most easily found by its singing from swampy areas near the Parkway road.



Yellow-throated Warbler (YTWA)

(*Dendroica dominica*)

Status: Common.

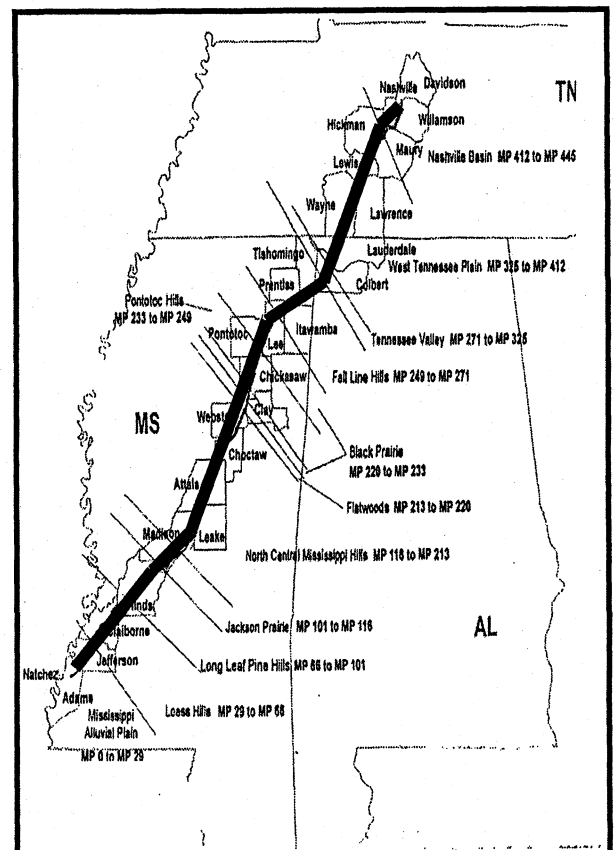
Distribution and Habitat: Inhabits open stands of pines, live oaks, bottomlands and mixed forests, preferably with abundant Spanish moss throughout the Natchez Trace Parkway.

Special Habitat Requirements: Large trees as they tend to utilize the upper canopy for foraging.

Breeding: Nest is saddled on a horizontal branch, far out from the tree trunk and at between 10-100 feet above the ground.

Food Habits: Eats insects caught by flycatching or gleaning from leaves and branches.

Other information: This bird is most often found singing along river banks or streams along the Parkway.



Prairie Warbler (PRAW)

(*Dendroica discolor*)

Status: Common.

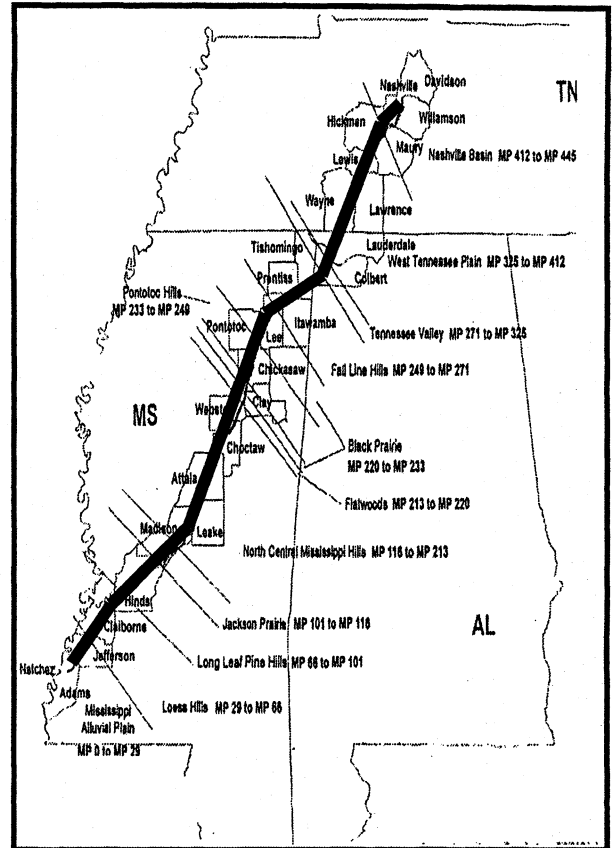
Distribution and Habitat: Occurs in open brushy lands in or near mixed woodlands along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Low trees and shrubs with, at least, some conifers.

Breeding: Nests in loose colonies. Attaches a well concealed cup nest to stems and branches of shrubs or trees at 2-3 feet above the ground.

Food Habits: Eats insects, some snails and worms.

Other information: Easily found near abandoned farmlands along the Parkway.



Pine Warbler (PIWA)

(*Dendroica pinus*)

Status: Common summer resident in the north and permanent resident in the southern 2/3 of the Parkway.

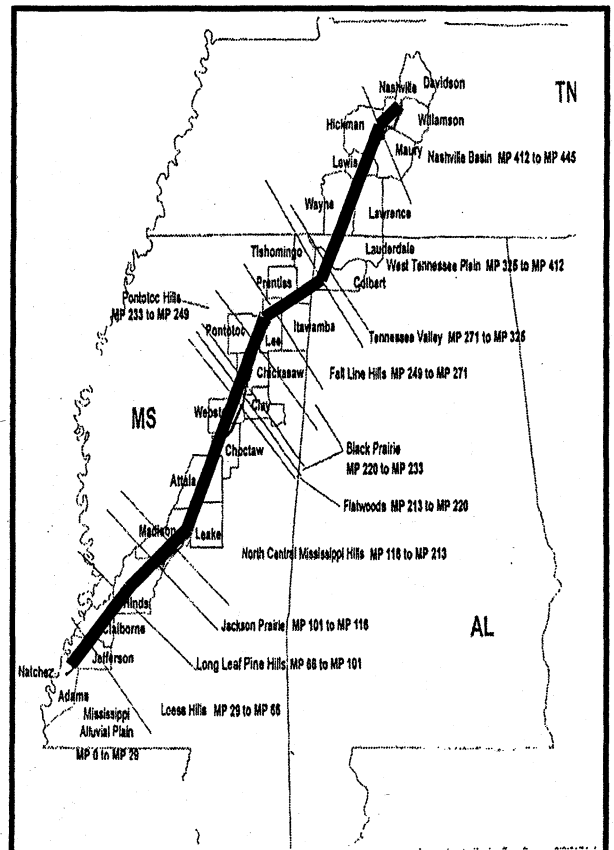
Distribution and Habitat: Inhabits open pine and mixed forests throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open pine forests.

Breeding: Nest saddled on horizontal limbs of conifers at 8-80 feet above the ground and far out from the tree trunk. Nest is usually well concealed in foliage.

Food Habits: Insects, spiders, pine seeds, wild fruits and berries and grass and weed seeds.

Other information: This common bird is often found singing in pine woods along the Parkway.



Yellow Warbler (YWAR)

(*Dendroica petechia*)

Status: Uncommon, usually seen as a migrant along the Parkway.

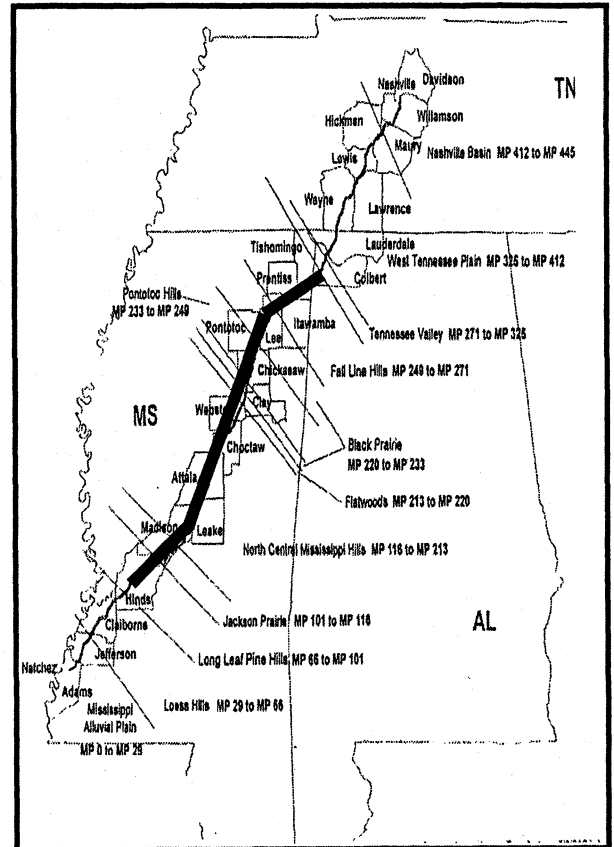
Distribution and Habitat: Prefers moist habitats such as stream, ponds and edges of marshes, but also found in roadside thickets during migration on the Natchez Trace Parkway.

Special Habitat Requirements: Small scattered trees or dense shrubbery.

Breeding: Nest is placed in an upright fork of a tree or bush 3-8 feet from the ground. This species probably does not nest along the Parkway except in the northernmost counties.

Food Habits: Insects and spiders are caught by gleaning or hawking.

Other information: Look for this warbler in flights of migrating warblers during spring and fall migrations.



Kentucky Warbler (KEWA)

(*Oporornis formosus*)

Status: Common.

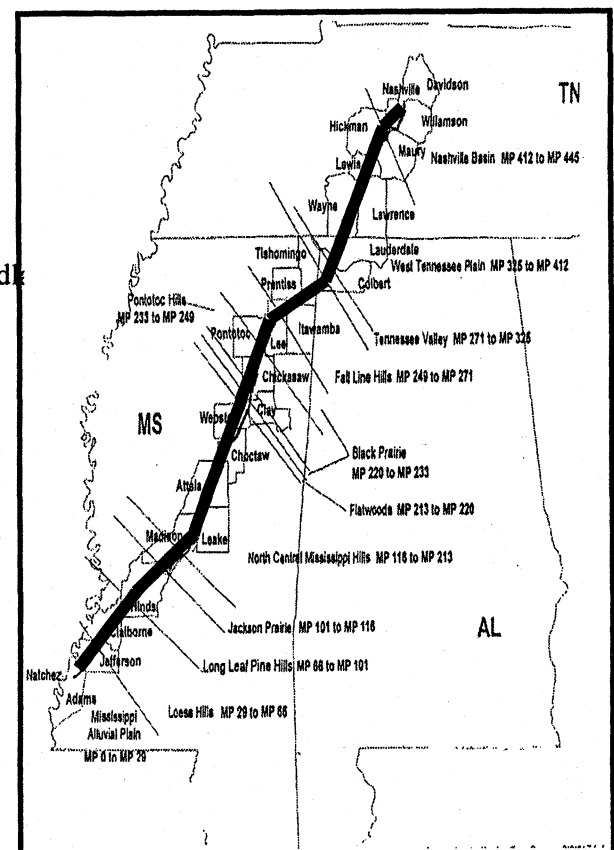
Distribution and Habitat: Occurs near water in shrubby woodlands, understory of damp or shady deciduous woods throughout the Natchez Trace Parkway.

Special Habitat Requirements: Deciduous woods with moist ravines or near water.

Breeding: Nests on the ground among plants at the base of shrubs and trees or under the branches of fallen limbs.

Food Habits: Eats insects and spiders.

Other information: This bird is most often heard singing from moist deciduous woods along the Parkway.



Hooded Warbler (HOWA)

(*Wilsonia citrina*)

Status: Common.

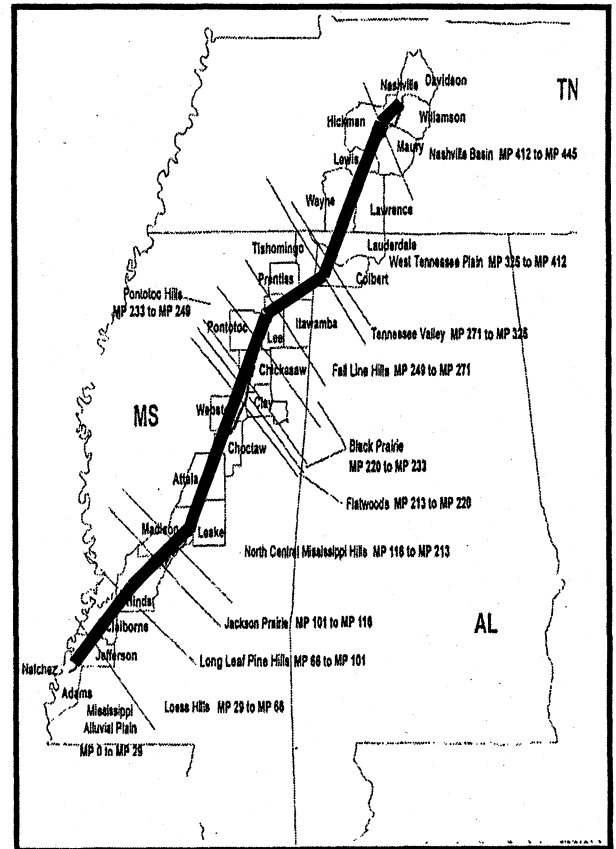
Distribution and Habitat: Occurs in moist, hardwood forests with dense undergrowth and cypress-gum swamplands throughout the Natchez Trace Parkway.

Special Habitat Requirements: Low, dense, deciduous woody vegetation.

Breeding: Cuplike nest is built in a fork of saplings, shrubs or herbaceous vegetation, less than 5 feet above the ground.

Food Habits: Insects and spiders are the chief foods.

Other information: This bird's song can be heard in nearly all deciduous woods along the Parkway.



Worm-eating Warbler (WEWA)

(*Helmitheros vermivorus*)

Status: Common.

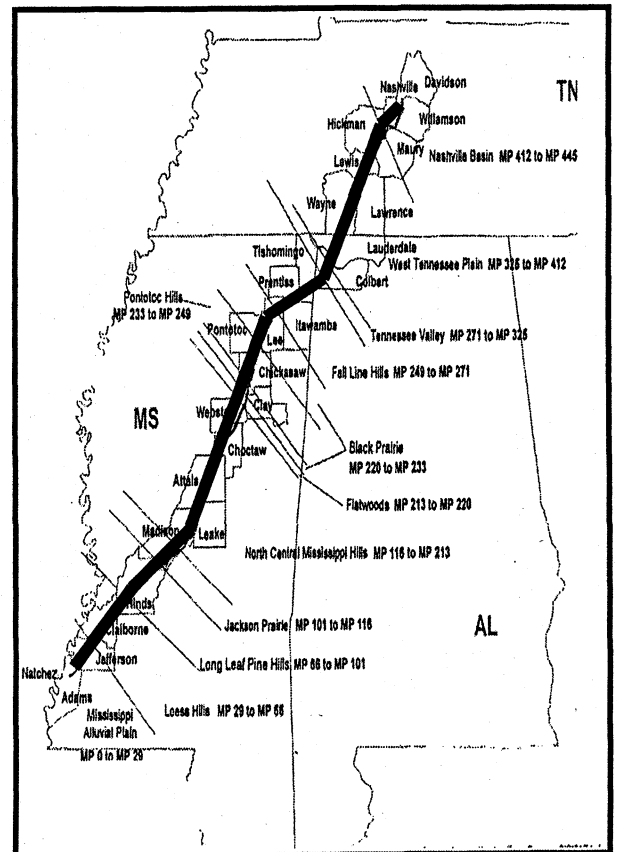
Distribution and Habitat: Occurs on wooded hillsides and ravines with medium sized stands of deciduous trees and undergrowth along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Dense undergrowth.

Breeding: Nest is built on the ground at the base of a tree or sapling, usually well concealed under dead leaves.

Food Habits: Eats insects, spiders and some worms.

Other information: Often heard near streams or swamps rimmed by shrubs and vines along the Parkway.



Swainson's Warbler (SWWA)

(*Limnothlypis swainsonii*)

Status: Uncommon.

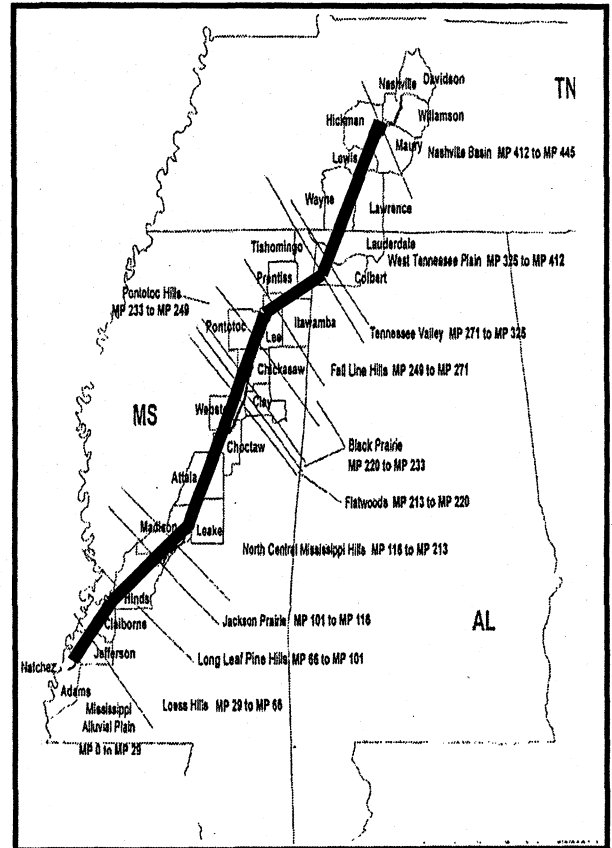
Distribution and Habitat: Occurs in rich, damp woodlands with deep shade and dense undergrowth throughout the Natchez Trace Parkway.

Special Habitat Requirements: Dense undergrowth.

Breeding: A bulky nest is built in shrubs or small trees from 2-6 feet above the ground.

Food Habits: Consumes insects and spiders found in leaves on the ground.

Other information: This secretive bird is found only by following its song through deep underbrush.



Louisiana Waterthrush (LOWA)

(*Seiurus motacilla*)

Status: Uncommon.

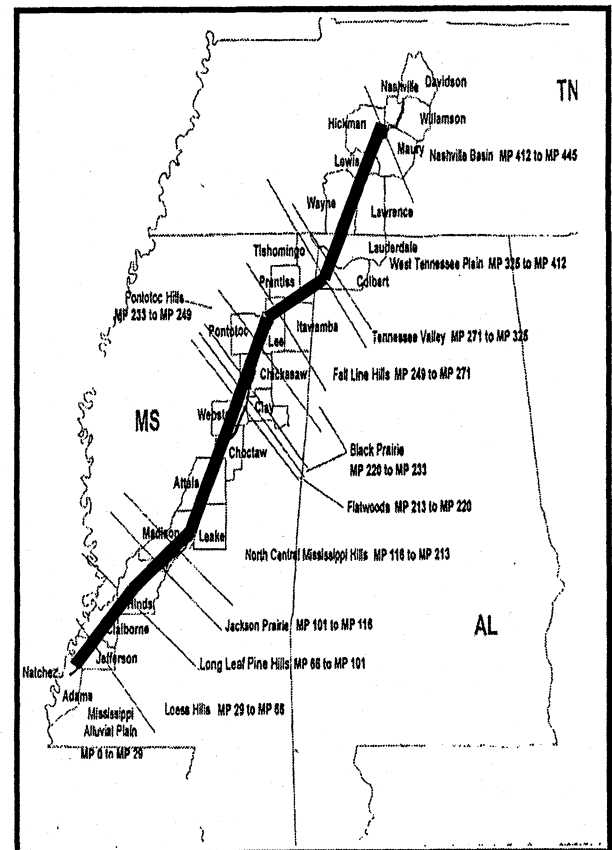
Distribution and Habitat: Occurs in bottomland forests with moss covered logs and rank undergrowth along rapidly flowing streams throughout the Natchez Trace Parkway.

Special Habitat Requirements: Woodlands with flowing water.

Breeding: Nest is placed on the ground under roots or in cavities in steep banks along streams.

Food Habits: Eats aquatic and terrestrial insects, spiders, small mollusks, killfishes and snails.

Other information: May sometimes be seen foraging along sandbanks of streams along the Parkway.



Common Yellowthroat (COYE)

(*Geothlypis trichas*)

Status: Common.

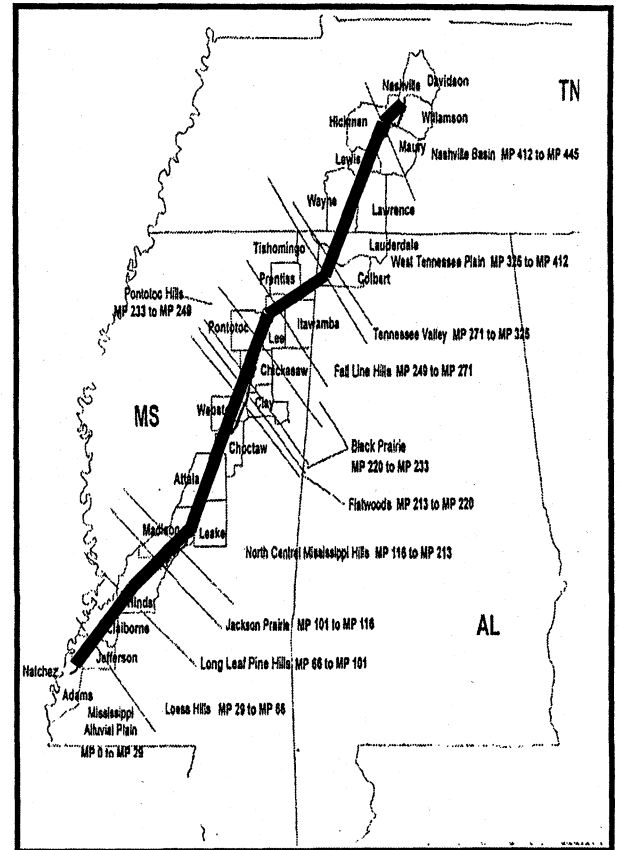
Distribution and Habitat: Inhabits areas of dense, lush herbaceous vegetation with small shrubs and trees in damp or wet situations throughout the Natchez Trace Parkway.

Special Habitat Requirements: Dense growth of low vegetation.

Breeding: A bulky cup nest of grass, leaves and bark is generally well hidden on the ground in a grass tussock or similar vegetation. Occasionally locates nest in shrubs or briars up to 3 feet above the ground.

Food Habits: Gleans insects and spiders from leaves of shrubs, grasses and forbs.

Other information: Often seen or heard singing around small ponds or marshes along the Parkway.



Yellow-breasted Chat (YBCH)

(*Icteria virens*)

Status: Common.

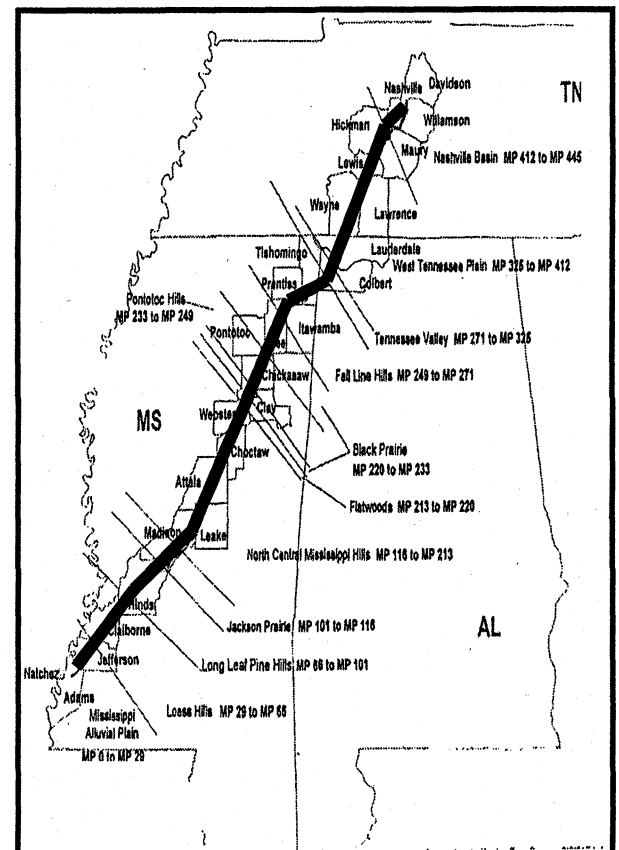
Distribution and Habitat: Occurs in ravines and streamside thickets of vines, briars, small trees and tall shrubs, forest edges, overgrown pastures and early successional stages of forest regeneration throughout the Natchez Trace Parkway.

Special Habitat Requirements: Dense shrubs and vines with scattered young trees.

Breeding: Nest is placed in dense small bushes, vines or briars at up to 8 feet above the ground.

Food Habits: Eats insects and some berries and fruits.

Other information: This bird's loud song may be heard coming from streamside thickets throughout the Parkway.



American Redstart (AMRE)

(Setophaga ruticilla)

Status: Uncommon.

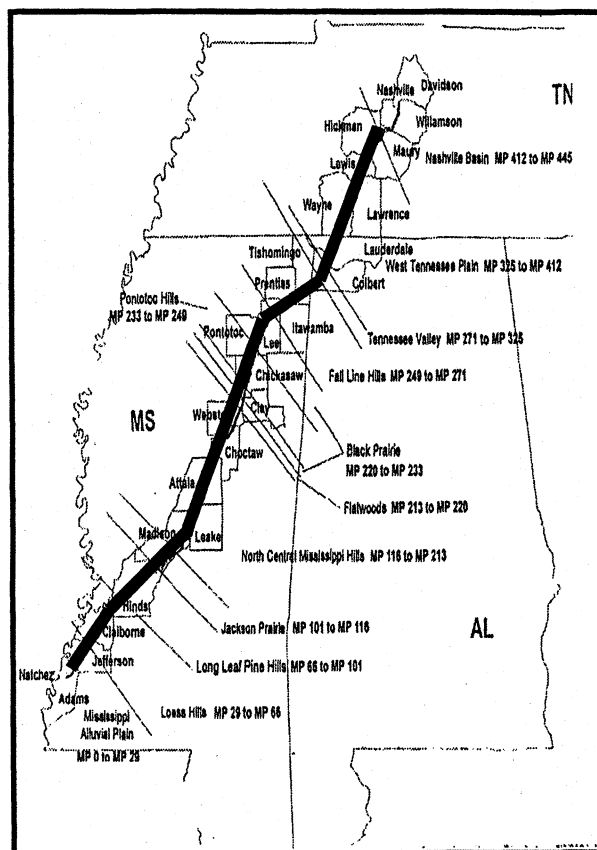
Distribution and Habitat: Occurs in open deciduous woodlands with a good understory of young trees, mixed woods and thickets bordering ponds and streams along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Good understory of young trees.

Breeding: Nest is placed in a crotch or on a horizontal limb of a second growth deciduous tree from 10-20 feet above the ground.

Food Habits: Eats insects, spiders and fruits.

Other information: This bird is generally heard before it is seen. It can be heard singing at the edge of deciduous woods throughout the Parkway.



Summer Tanager (SUTA)

(Piranga rubra)

Status: Common.

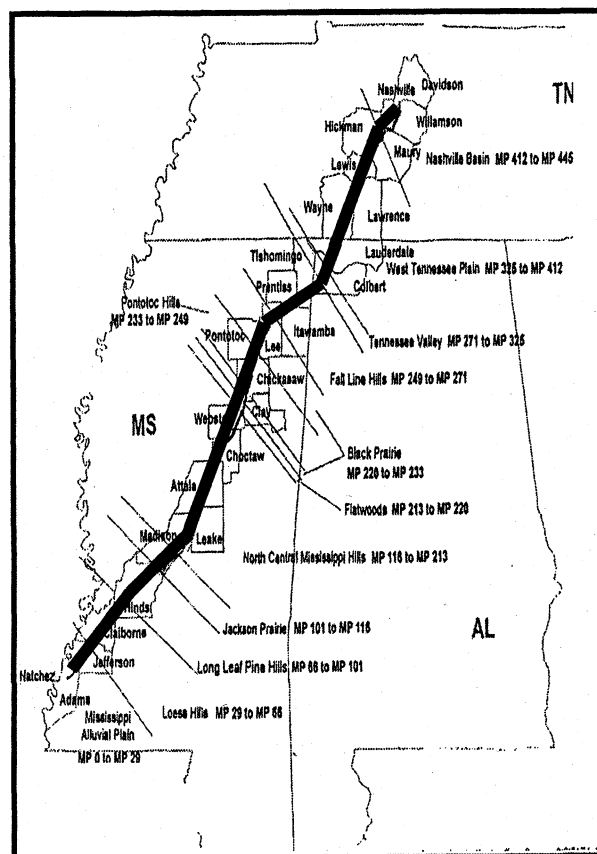
Distribution and Habitat: Occurs in open oak, hickory and pine woodlands throughout the Natchez Trace Parkway.

Special Habitat Requirements: Woods with pines or oaks are preferred.

Breeding: A flimsy, flat, shallow cup nest is built on a horizontal limb 10-35 feet above the ground. Oaks are the nest tree of choice.

Food Habits: Insects, including bees and wasps and some fruits.

Other information: This bird occurs in nearly all mixed woods along the Parkway.



Scarlet Tanager (SCTA)

(*Piranga olivacea*)

Status: Common summer resident in the northern 1/3 of the Parkway and migrant through the southern 2/3.

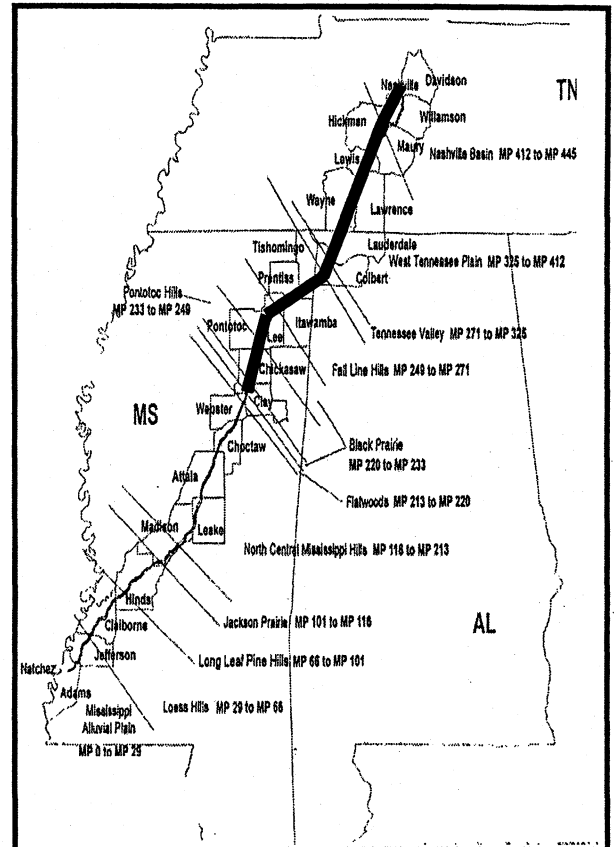
Distribution and Habitat: Occurs in mature deciduous or mixed woodlands in the northern 1/3 of the Natchez Trace Parkway.

Special Habitat Requirements: Mature deciduous or mixed woodlands.

Breeding: Nest is shallow and saucer shaped, placed well out on a horizontal limb of a large tree in a leaf cluster or where it is shaded from above.

Food Habits: Eats insects, slugs, snails, worms, spiders, and some wild fruits.

Other information: This species can be seen and heard singing from large shade trees in the northern portions of the Parkway.



Eastern (Rufous-sided) Towhee (RSTO)

(*Pipilo erythrophthalmus*)

Status: Common permanent resident.

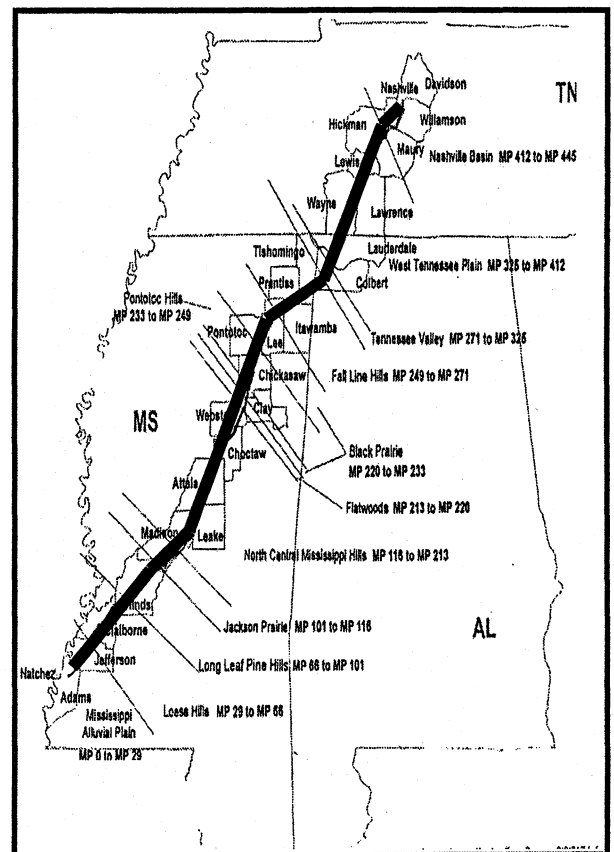
Distribution and Habitat: Occurs in dense brushy fields, forest edges, open woodlands and roadside thickets and clearings throughout the Natchez Trace Parkway.

Special Habitat Requirements: Dense brushy cover.

Breeding: Nest is bulky and placed in a depression in the ground or, sometimes, in a low shrub up to 3 feet above the ground.

Food Habits: Eats acorns, weed seeds, small fruits, insects, spiders and snails.

Other information: Most easily found in areas of red cedar woods along the Parkway.



Bachman's Sparrow (BACS)

(*Aimophila aestivalis*)

Status: Uncommon and local.

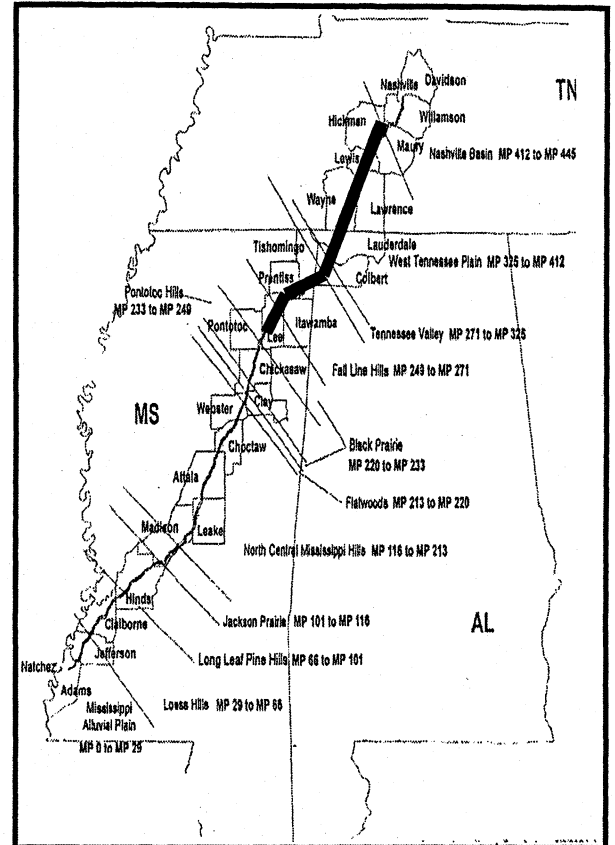
Distribution and Habitat: Inhabits brushy hillsides or wooded borders of grassy fields in the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Dense herbaceous cover interspersed with or bordered by shrubs and trees.

Breeding: Nest is well constructed on the ground, usually under a low bush or against a tussock of grass.

Food Habits: Chief foods include insects, spiders and seeds.

Other information: Most often seen in brushy fields, singing from grass stalks.



Field Sparrow (FISP)

(*Spizella pusilla*)

Status: Common permanent resident.

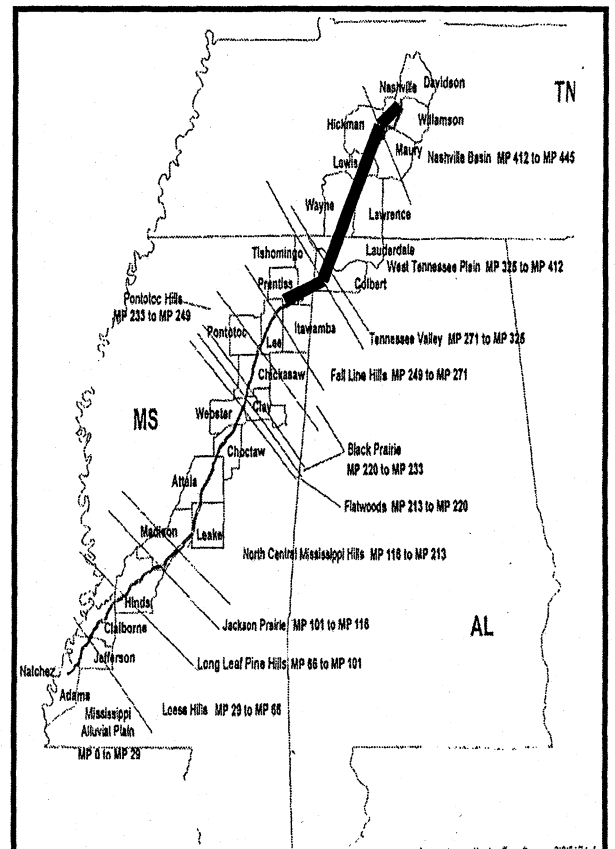
Distribution and Habitat: Occurs in old fields overgrown with briar thickets or deciduous underbrush, brushy fencerows, cut over pine forests, edges of open, unplowed fields and forest edges in the northern portions of the Natchez Trace Parkway.

Special Habitat Requirements: Open areas with low brush or trees.

Breeding: Nest is built on or within 4 feet of the ground in weed clumps, tufts of grass, or in small shrubs or trees.

Food Habits: Eats a variety of weed and grass seeds and insects.

Other information: This bird may be heard or seen calling from most brushy borders of fields in the Tennessee portions of the Parkway.



Chipping Sparrow (CHSP)

(*Spizella passerina*)

Status: Common summer resident in the north and permanent resident in the south.

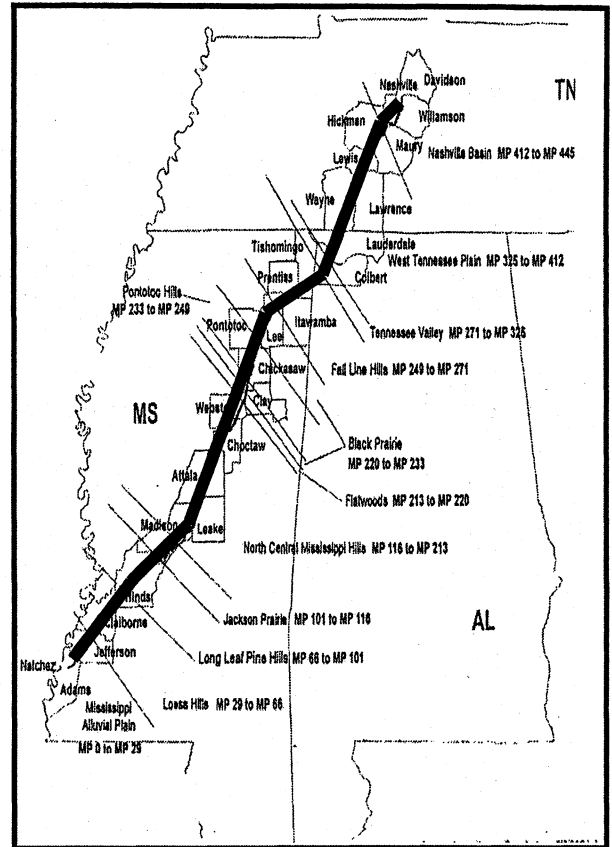
Distribution and Habitat: Inhabits open coniferous and deciduous woodlands, forest edges and clearings, and wooded borders of ponds and streams throughout the Natchez Trace Parkway.

Special Habitat Requirements: Prefers habitats with trees surrounded by an open area with some open ground for foraging.

Breeding: A well concealed nest is built from 3-10 feet above the ground in conifers, shrubs or vines and is located near the trunk and at the top of small trees or farther from the trunk in larger trees.

Food Habits: Insects and seeds are gleaned from the ground in open areas.

Other information: Often heard and seen singing from the forest edge along the Parkway.



Grasshopper Sparrow (GRSP)

(*Ammodramus savannarum*)

Status: Uncommon.

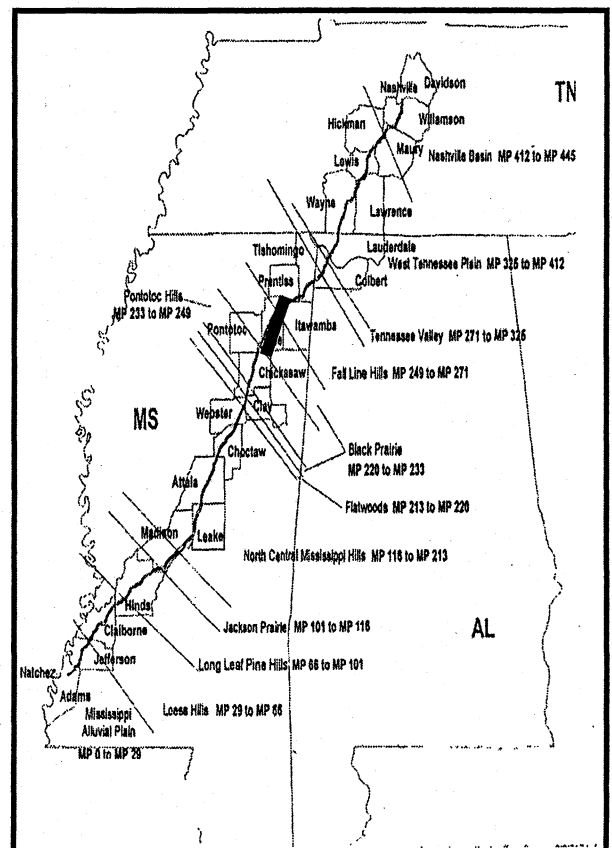
Distribution and Habitat: Occupies cultivated grasslands, small grain fields and weedy fallow fields in the northern ½ of the Natchez Trace Parkway.

Special Habitat Requirements: Continuous tall herbaceous cover with conspicuous song perches.

Breeding: Nest is built in a slight depression in the ground and is hidden at the base of a clump of grass or other vegetation with vegetation arched over the top.

Food Habits: Consumes insects, spiders, snails and seeds.

Other information: This secretive bird is more likely heard than seen in its preferred habitat.



Savannah Sparrow (SAVS)

(Passerculus sandwichensis)

Status: Uncommon winter visitant.

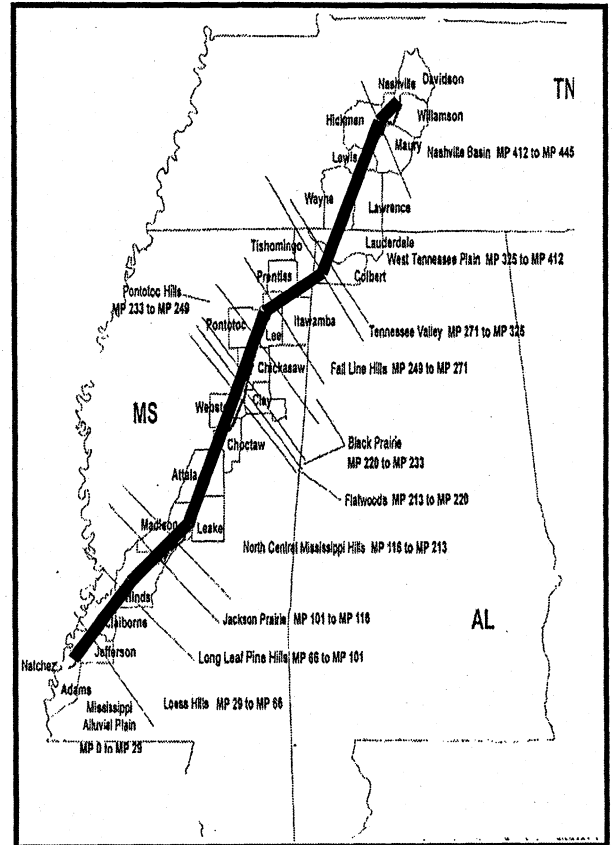
Distribution and Habitat: Inhabits open wet areas with grass or grasslike vegetation throughout the Natchez Trace Parkway in the winter.

Special Habitat Requirements: Dense grassy or herbaceous vegetation of moderate height.

Breeding: Nest is well hidden in a natural hollow in the ground among thick herbaceous cover. This species probably does not nest along the Parkway.

Food Habits: Consumes insects, spiders, snails and seeds.

Other information: May be seen, usually by chance in wet areas of the Parkway in winter.



Song Sparrow (SOSP)

(Melospiza melodia)

Status: Fairly common winter visitant.

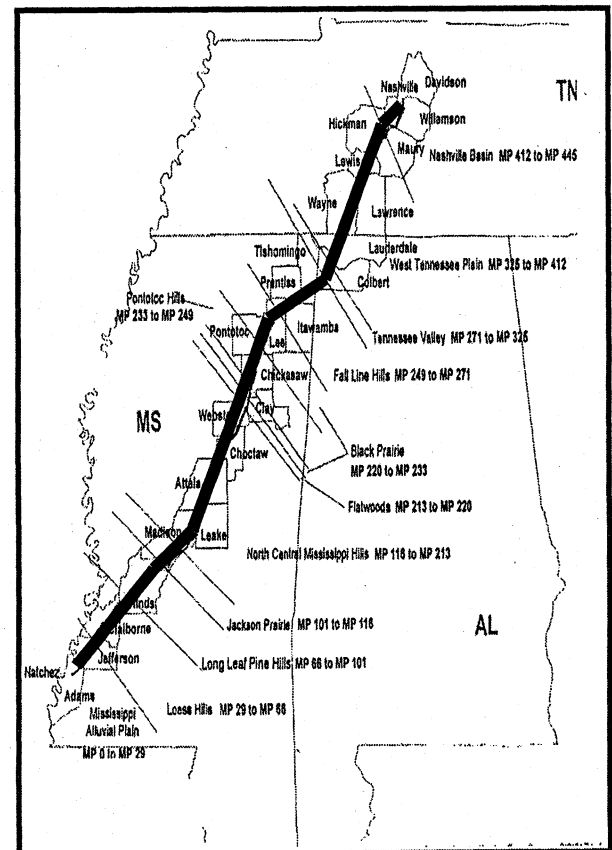
Distribution and Habitat: Inhabits moist areas with low irregular plants or brushy vegetation, marshes with cattails or bulrushes, and forest edges adjacent to marshes or openings.

Special Habitat Requirements: Moist areas with brushy vegetation.

Breeding: Nest is normally on the ground, concealed under a tuft of grass or bush. Sometimes the nest is placed at up to 12 feet in shrubs or small trees. This bird probably does not nest along the Parkway.

Food Habits: This species consumes a wide variety of both vegetable and animal materials.

Other information: Often seen in brush along streams along the Parkway in winter.



White-throated Sparrow (WTSP)

(*Zonotrichia albicollis*)

Status: Uncommon winter visitant.

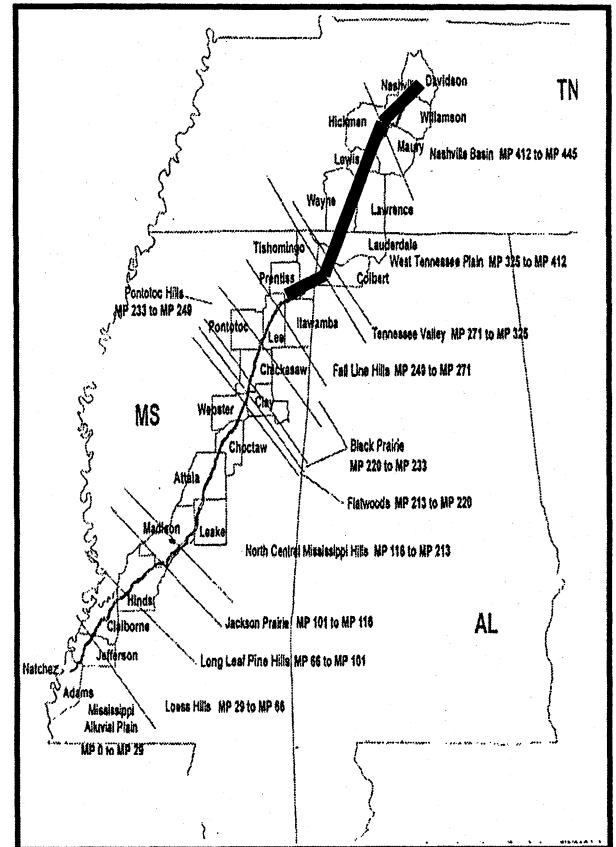
Distribution and Habitat: Occupies semiopen wooded areas with dense undergrowth or brush throughout the Natchez Trace Parkway in winter.

Special Habitat Requirements: Open woodlands with dense cover in the form of dense woody undergrowth, thickets or brush.

Breeding: Nests on the ground, usually at the base of a tree, stump or shrub. This bird does not breed along the Parkway.

Food Habits: Primary foods are seeds of grasses and weeds, wild fruits and insects.

Other information: More common in the northern reaches of the Parkway in winter, this bird may be seen foraging in small flocks in its favored habitat.



White-crowned Sparrow (WCSP)

(*Zonotrichia leucophrys*)

Status: Common winter visitant.

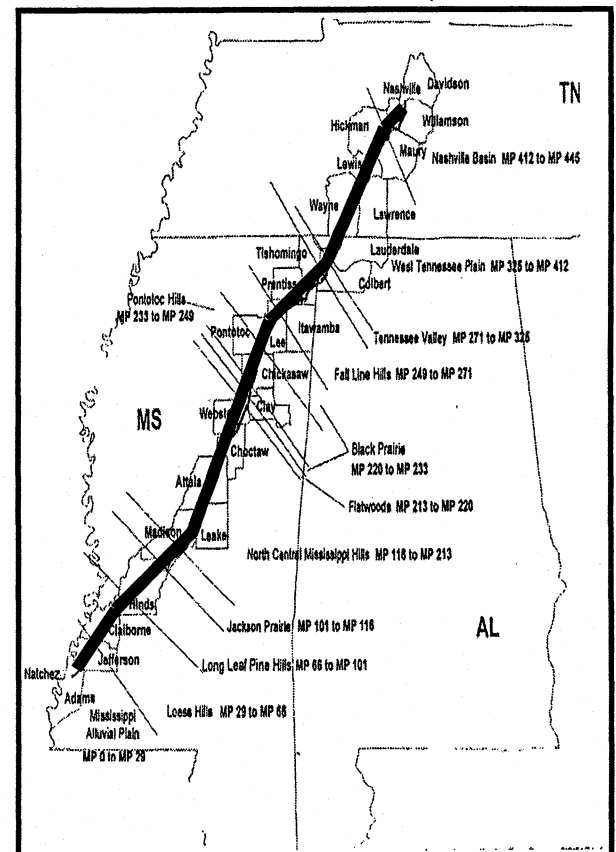
Distribution and Habitat: Frequents edge habitats, brushy hillsides, roadside vegetation and cultivated fields throughout the Natchez Trace Parkway in the winter.

Special Habitat Requirements: Thicket, hedgerows or edge habitat.

Breeding: Well concealed nests are built on the ground in a moss or lichen bed. This species does not nest on Parkway lands.

Food Habits: Feeds on seeds and insects.

Other information: Often seen foraging in small flocks along Parkway roads in the winter.



Dark-eyed (Slate-colored) Junco (SCJU)

(Junco hyemalis)

Status: Uncommon winter visitant.

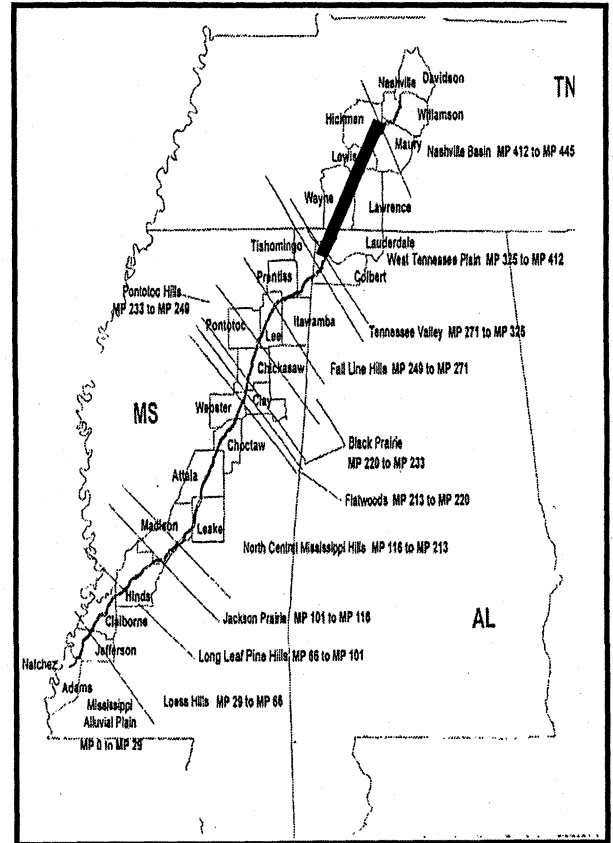
Distribution and Habitat: Occurs in wooded habitats, forest edges, woodland clearings, open woodlands and in brushy cover bordering meadows throughout the Natchez Trace Parkway in winter.

Special Habitat Requirements: Openings in wooded habitats covered with dense herbaceous vegetation.

Breeding: Builds a well concealed nest on the ground under weeds, fallen logs, tree roots or other overhead shelter. This species does not nest along the Parkway.

Food Habits: Seeds and insects make up the food supply.

Other information: Most often seen along the Parkway in small flocks at the edge of woodlands.



Northern Cardinal (NOCA)

(Cardinalis cardinalis)

Status: Common permanent resident.

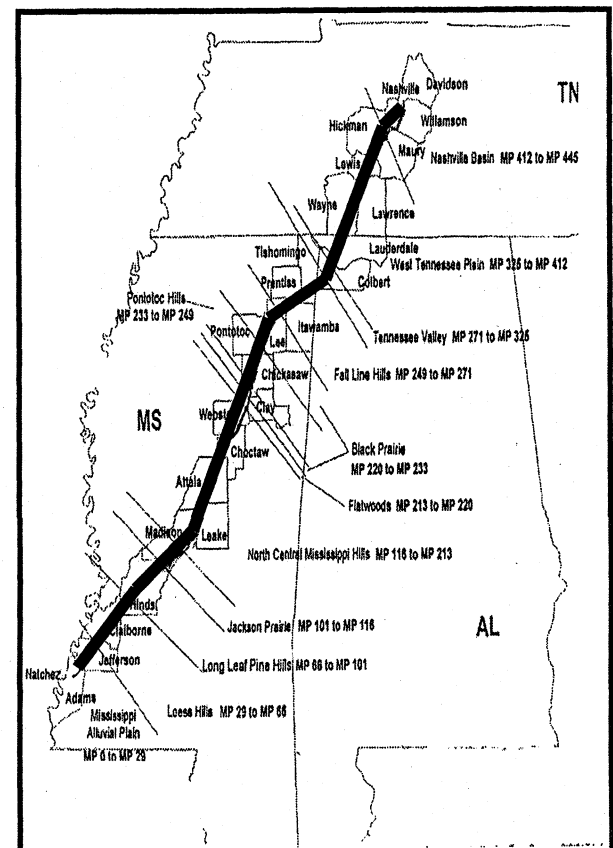
Distribution and Habitat: Occurs at forest edges, second growth woods and brushy forest openings throughout the Natchez Trace Parkway.

Special Habitat Requirements: Dense forest understory or dense shrub habitat.

Breeding: Nest is built in dense shrubbery, small trees, thickets, or briar tangles, usually less than 20 feet above the ground.

Food Habits: Eats grains, weed seeds, wild fruits and a small amount of insects.

Other information: This is one of the more common and conspicuous birds and can be found almost anywhere along the Parkway.



Dickcissel (DICK)

(*Spiza americana*)

Status: Uncommon and local.

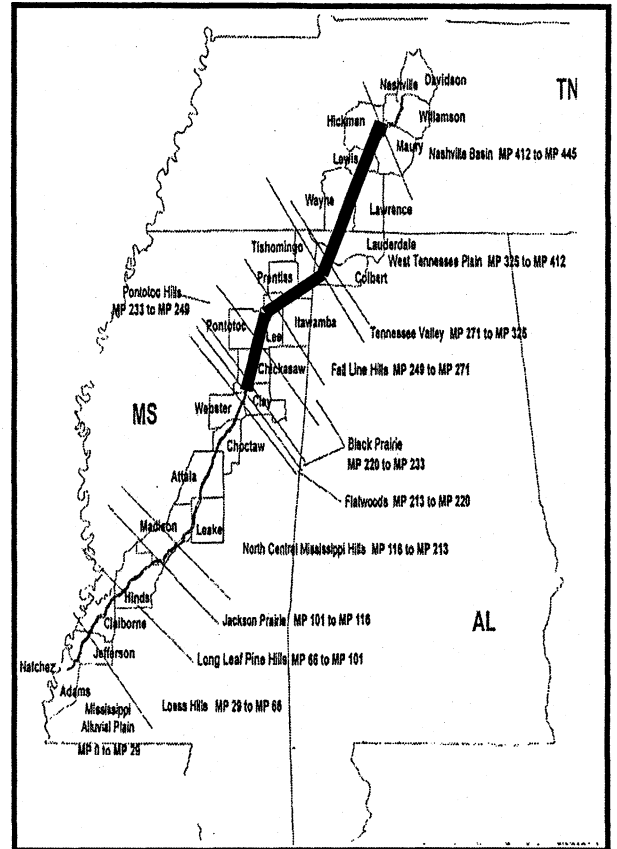
Distribution and Habitat: Occupies cultivated, abandoned or fallow croplands and grasslands with tall grasses along the entire length of the Natchez Trace Parkway.

Special Habitat Requirements: Dense herbaceous cover and song perches.

Breeding: A bulky cup nest is built on the ground or attached to forks in shrubs or low trees.

Food Habits: Diet consists of weed seeds, grain and some insects.

Other information: Most easily observed in brushy abandoned croplands in the northern ½ of the Parkway.



Blue Grosbeak (BLGR)

(*Guiraca caerulea*)

Status: Common.

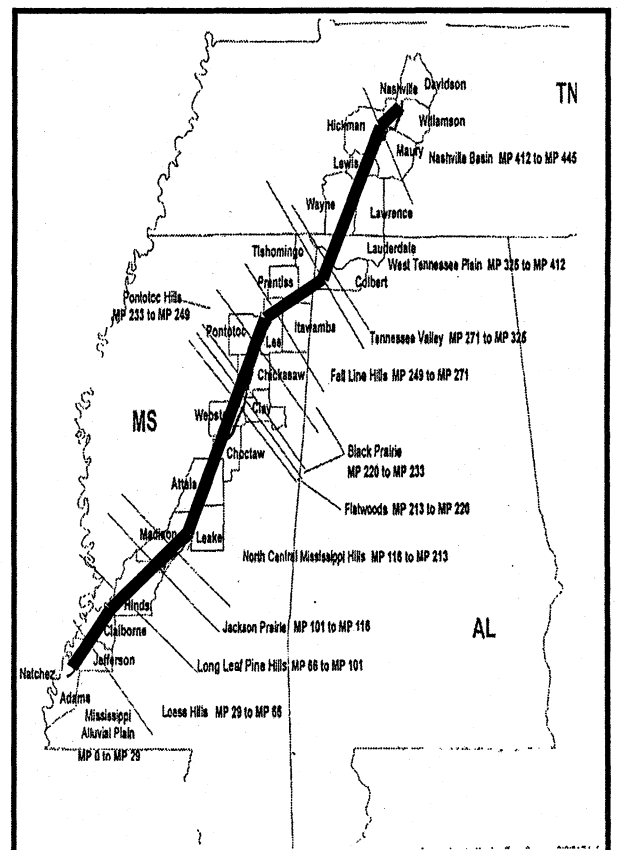
Distribution and Habitat: Occupies weedy pastures, forest edges, streamside and swampy thickets and hedgerows throughout the Natchez Trace Parkway.

Special Habitat Requirements: Requires brushy vegetation.

Breeding: Nest is compact and deep, placed 3-8 feet above the ground at the edge of an open area in a low tree, shrub or tangle of vines or briar.

Food Habits: Consumes insects, snails, spiders, grain, weed seeds and fruits.

Other information: Often seen or heard singing from forest edges near streams along the Parkway.



Indigo Bunting (INBU)

(*Passerina cyanea*)

Status: Common.

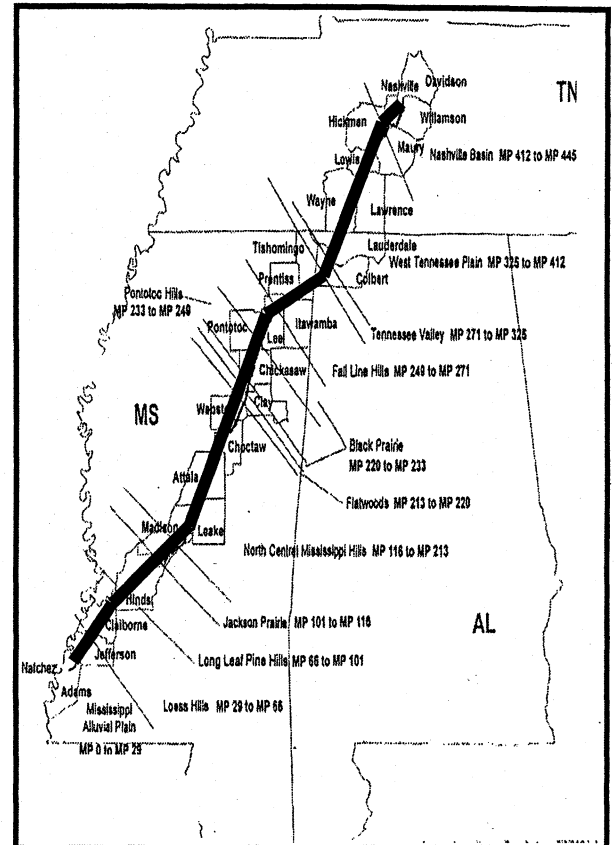
Distribution and Habitat: Occurs in wood edges, open brushy fields, roadside thickets and brushy ravines throughout the Natchez trace Parkway.

Special Habitat Requirements: Forest edges.

Breeding: A cup nest is placed from 1-12 feet up in a crotch of a shrub or low tree.

Food Habits: Eats insects, weed seeds, berries and fruits.

Other information: Can be seen or heard singing from forest edges along the Parkway.



Painted Bunting (PABU)

(*Passerina ciris*)

Status: Uncommon.

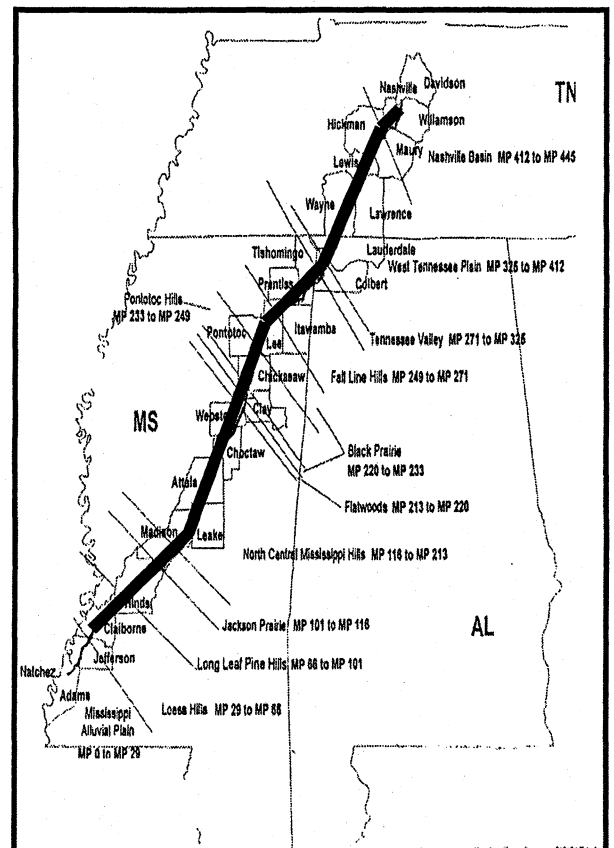
Distribution and Habitat: Inhabits open country with brushy and weedy fields throughout the Natchez Trace Parkway.

Special Habitat Requirements: Brushy, open areas.

Breeding: Attaches a shallow cup nest to twigs on deciduous shrubs, trees and vines at from 3-9 feet above the ground.

Food Habits: Grass seeds, insects and some small spiders make up the diet.

Other information: Can be observed singing from bush tops in weedy fields along the Parkway.



Bobolink (BOBO)

(*Dolichonyx oryzivorus*)

Status: Uncommon transient during spring and fall migration.

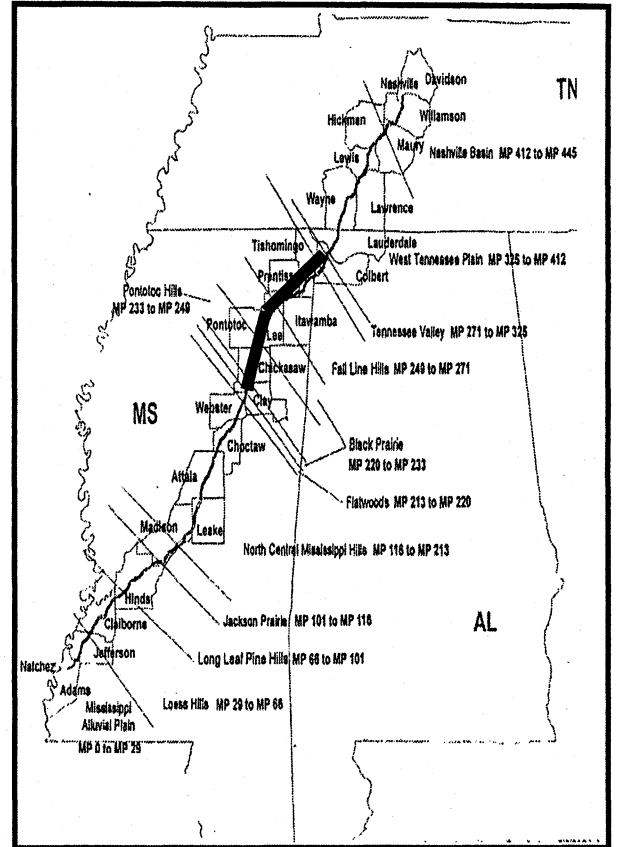
Distribution and Habitat: Occurs in large open fields of tall grass and wet meadows along the Natchez Trace Parkway.

Special Habitat Requirements: Large expanses of grassland or forb cover.

Breeding: Nest is built on the ground in dense stands of tall vegetation. This species does not nest along the Parkway.

Food Habits: Eats insects, weed seeds, grasses and waste grain.

Other information: Usually seen in large flocks in grassy fields during migration.



Eastern Meadowlark (EAME)

(*Sturnella magna*)

Status: Common permanent resident.

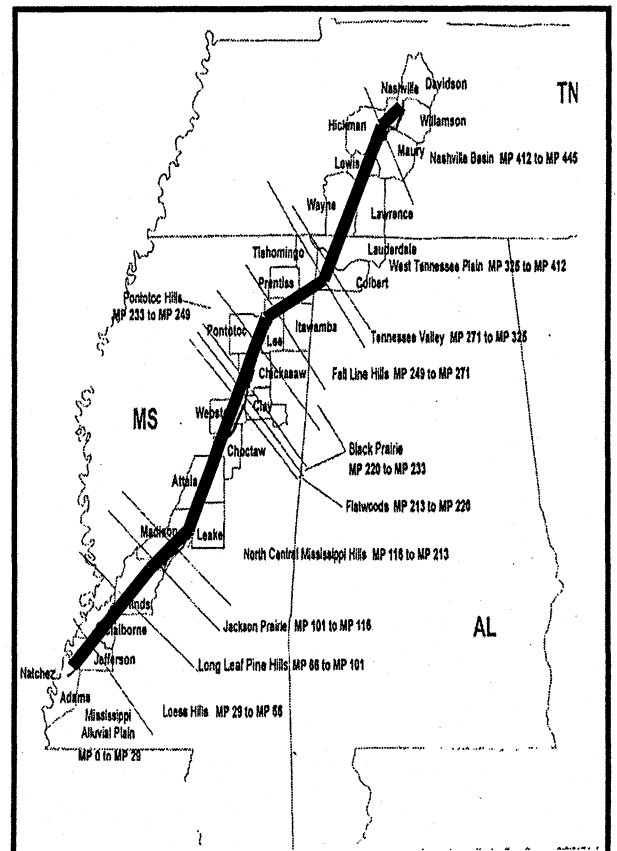
Distribution and Habitat: Occurs in pastures and other grass dominated habitats, open agricultural fields, and weedy orchards along the length of the Natchez trace Parkway.

Special Habitat Requirements: Open grasslands with elevated singing perches such as fences, poles or lone trees.

Breeding: Nest is on the ground, well concealed by a canopy of vegetation bent over the nest.

Food Habits: Food consists of insects, weed and grass seeds and waste grain.

Other information: This bird may be found in most large, open fields along the Parkway.



Red-winged Blackbird (RWBL)

(*Agelaius phoeniceus*)

Status: Common permanent resident.

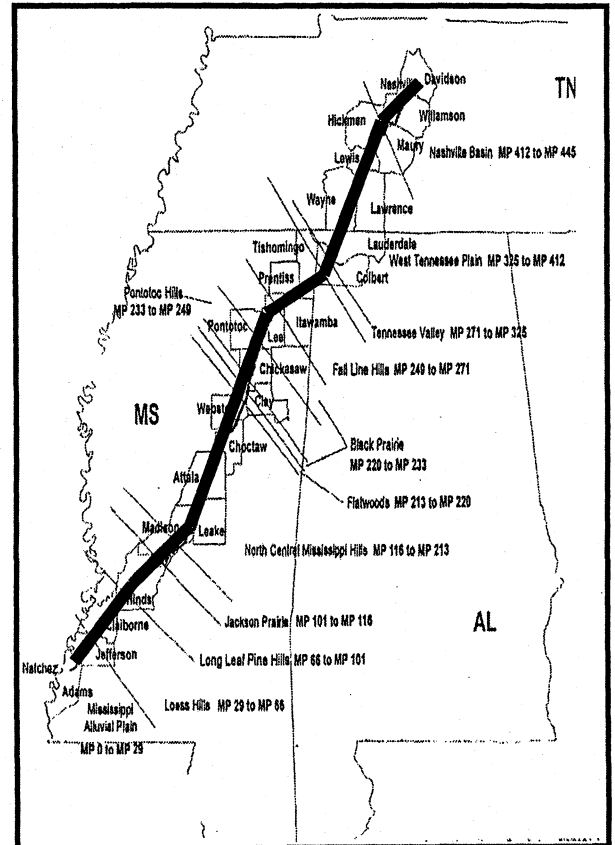
Distribution and Habitat: Occurs in marshes and other wetland areas and agricultural fields throughout the Natchez Trace Parkway.

Special Habitat Requirements: Standing vegetation along open fields and marshes.

Breeding: Nest is a deep narrow cup of grass, reeds and weed rootlets attached to emergent vegetation up to 12 feet above the ground. Also nests in weeds and brush patches and croplands.

Food Habits: Food consists of grains and seeds, insects, spiders, and snails.

Other information: These birds may be observed near most ponds and moist fields along the Parkway.



Common Grackle (COGR)

(*Quiscalus quiscula*)

Status: Common permanent resident.

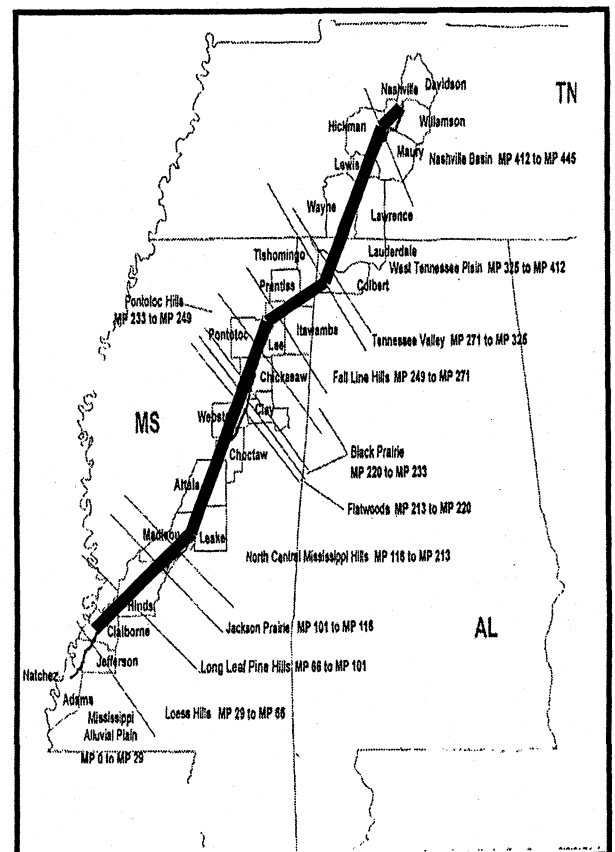
Distribution and Habitat: Occurs in open, especially agricultural habitat with scattered trees or open woods and forest edges throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open habitat with woods or trees nearby.

Breeding: Nest is placed in trees at from 7-35 feet above the ground and is well concealed in dense masses of foliage.

Food Habits: Nuts, weed seeds, small bulbs, eggs and young of other birds insects, fish and cultivated crops are eaten.

Other information: Usually seen flying across the Parkway road in the vicinity of streams or larger lakes.



Rusty Blackbird (RUBL)

(*Euphagus carolinus*)

Status: Uncommon winter visitant.

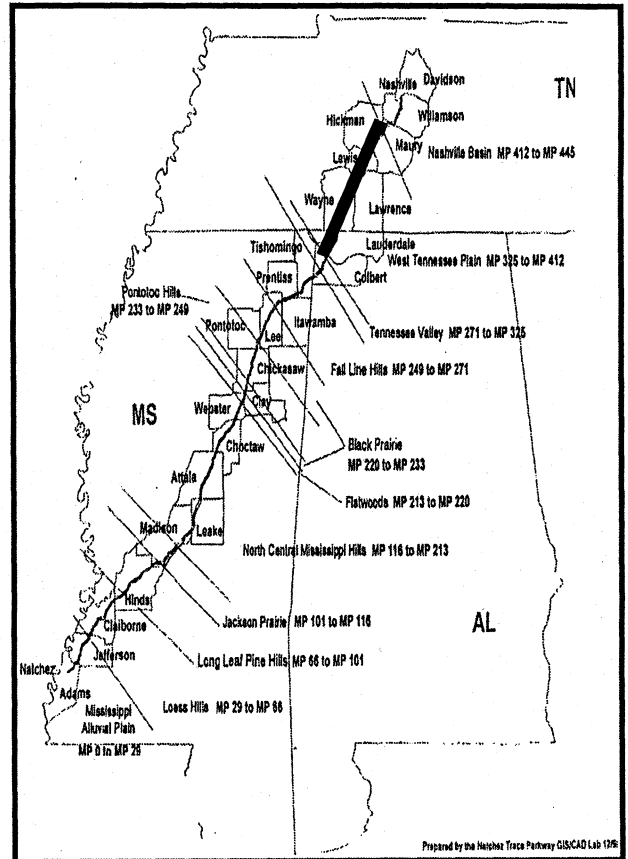
Distribution and Habitat: Occurs in pastures and agricultural lands during the winter on the Natchez Trace Parkway.

Special Habitat Requirements: Weedy areas in open fields in which to forage.

Breeding: Nests in dense stands of evergreens from 2-20 feet above the ground. This species does not nest on the Parkway.

Food Habits: Insects, weed seeds, waste grain and wild fruits comprise the diet of this species.

Other information: This species is generally not seen in the mixed flocks of blackbirds along the Parkway during the winter.



Brown-headed Cowbird (BHCO)

(*Molothrus ater*)

Status: Common permanent resident.

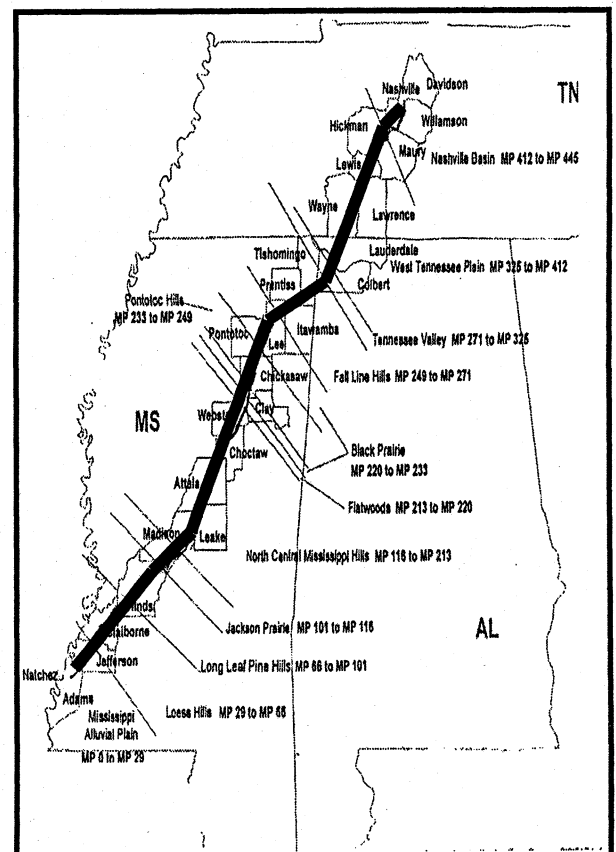
Distribution and Habitat: Occurs in open woodlands, forest edges, brushy thickets and agricultural land throughout the Natchez Trace Parkway.

Special Habitat Requirements: Habitats with open grassy spaces.

Breeding: This species lays its eggs in the nests of over 100 species of birds and makes no nest of its own.

Food Habits: Consumes weed and grass seeds, waste grain and insects.

Other information: Often seen in pastures searching for insects stirred up by cattle or horses.



Orchard Oriole (OROR)

(*Icterus spurius*)

Status: Uncommon.

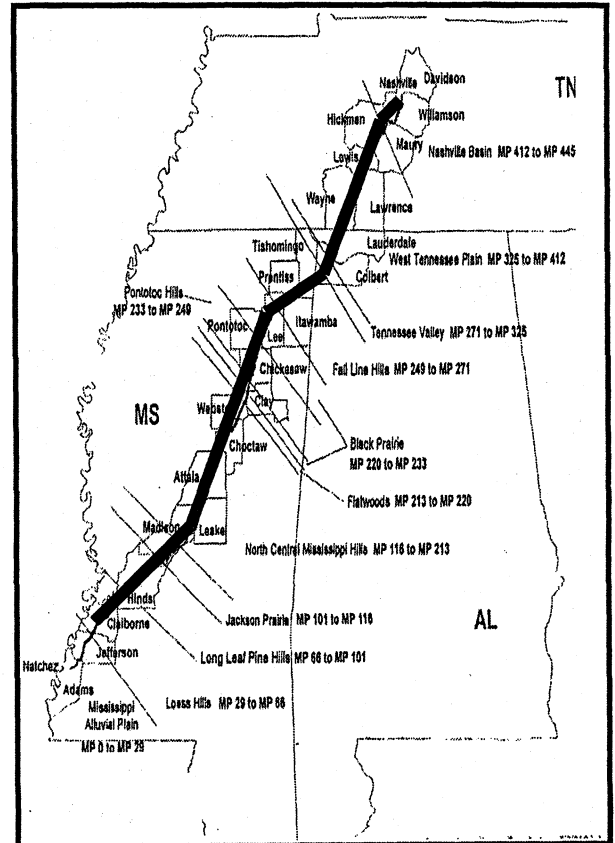
Distribution and Habitat: Inhabits open country with a few scattered trees and lightly wooded river bottoms throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open woodlands or open areas with scattered trees.

Breeding: Nest is a semipendulous sack, well concealed by dense foliage, suspended from a fork from 4-70 feet above the ground, usually in a deciduous tree.

Food Habits: Gleans insects from leaves of trees and shrubs. Also eats fruits.

Other information: Where it occurs along the Parkway, this species is most often noticed by its song.



Baltimore Oriole (BAOR)

(*Icterus galbula*)

Status: Common.

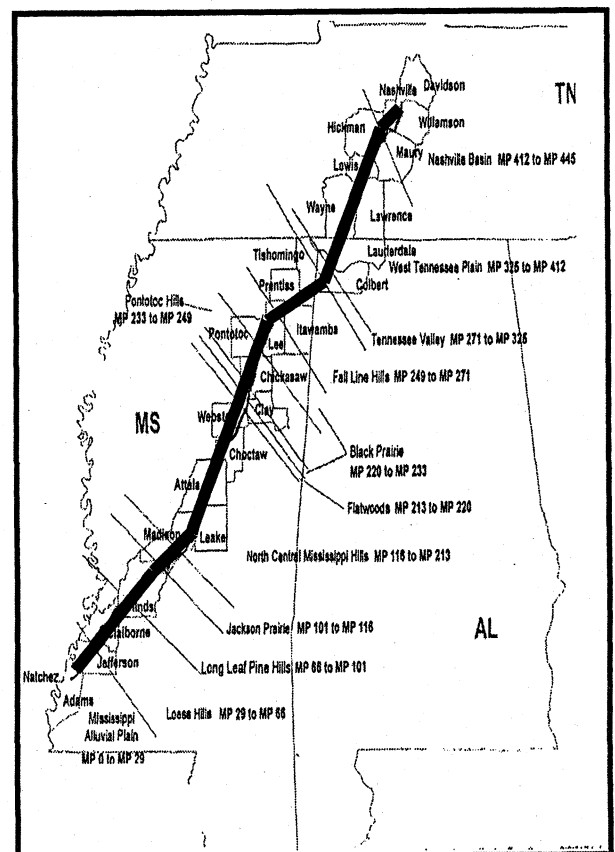
Distribution and Habitat: Inhabits deciduous forest edges, wooded river bottoms, upland forests and shelterbelts throughout the Natchez Trace Parkway.

Special Habitat Requirements: Tall deciduous trees for nesting.

Breeding: Pendant nest is attached by its rim to the tip of a long drooping branch at from 9-70 feet above the ground.

Food Habits: Gleans insects from leaf and twig surfaces and also eats spiders and some wild and cultivated fruits.

Other information: Often heard singing from ornamental trees along the Parkway.



House Finch (HOFI)

(*Carpodacus mexicanus*)

Status: Common permanent resident.

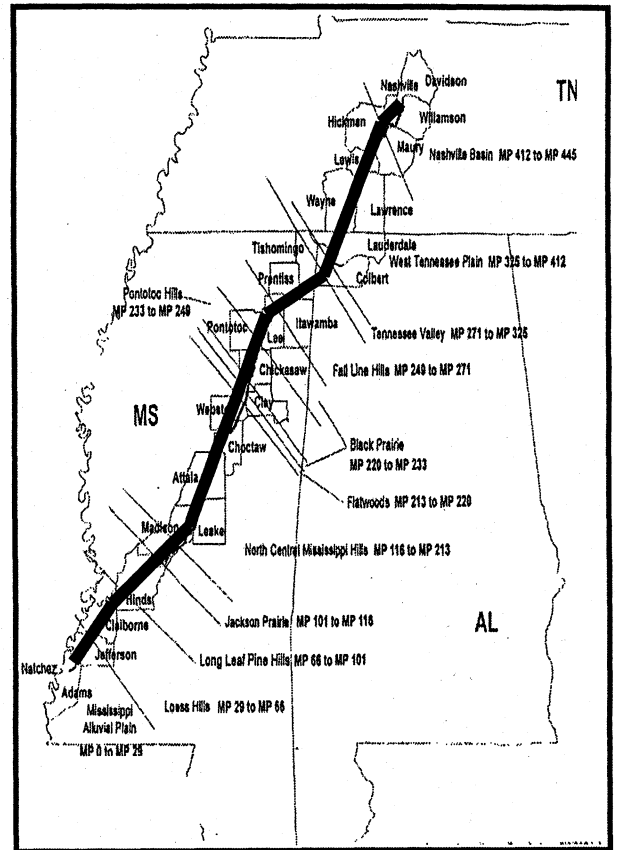
Distribution and Habitat: Inhabits farms, open woodlands and woods with large openings throughout the Natchez Trace Parkway.

Special Habitat Requirements: Open areas for foraging.

Breeding: Nest is located in tree cavities or in dense outer foliage of coniferous trees or shrubs about 20 feet above the ground.

Food Habits: Seeds fruits and insects comprise the diet of this species.

Other information: Often seen foraging in small groups in open fields along the Parkway.



Pine Siskin (PISI)

(*Carduelis pinus*)

Status: Uncommon winter visitant.

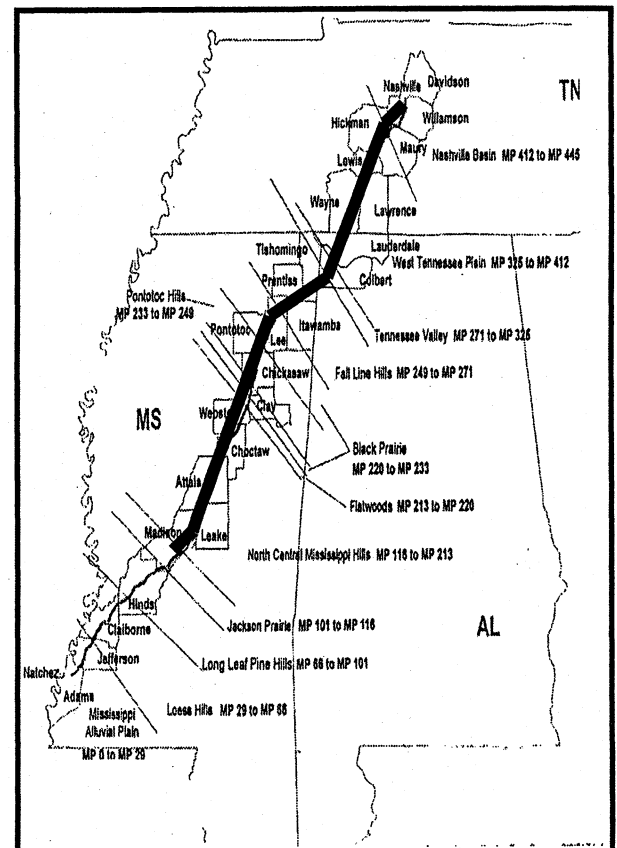
Distribution and Habitat: Inhabits coniferous forests with low to intermediate canopy cover throughout the Natchez Trace Parkway in winter.

Special Habitat Requirements: Coniferous forests.

Breeding: Nest is located on a conifer branch in the shelter of another branch from 15-35 feet above the ground.

Food Habits: Eats seeds, berries and a wide variety of insects.

Other information: Most often seen flying across the Parkway road in small flocks in the winter.



American Goldfinch (AMGO)

(*Carduelis tristis*)

Status: Common permanent resident.

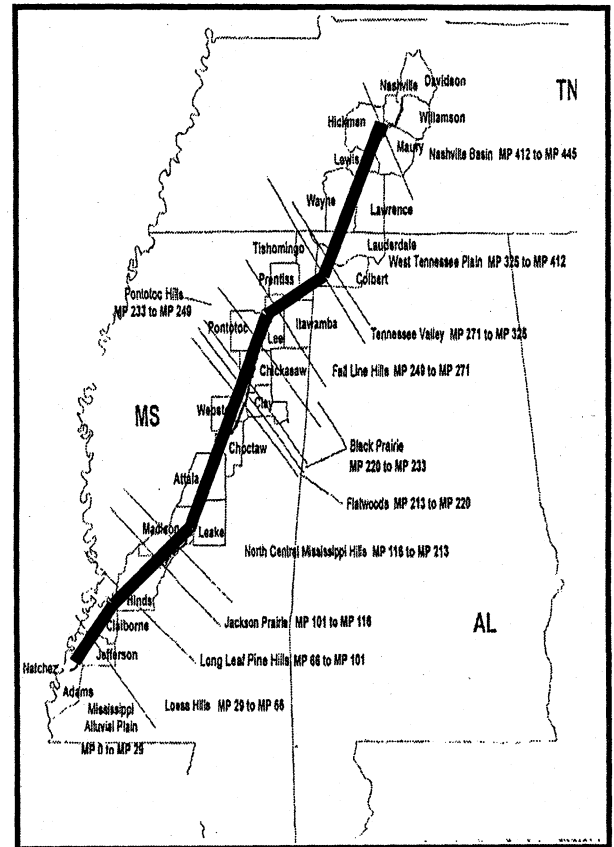
Distribution and Habitat: Frequents habitats with thistles or cattails including open weedy fields, pastures with scattered trees and forest edges along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Open weedy fields and scattered woody growth for nesting and thistle-down or cattail down for nest building and feeding young.

Breeding: Nest is located in a cluster of upright branches or on a horizontal limb 5-15 feet above the ground.

Food Habits: Eats seeds, some insects, fruits and succulent vegetation.

Other information: Often seen flying over open areas along the Parkway.



House Sparrow (HOSP)

(*Passer domesticus*)

Status: Common permanent resident.

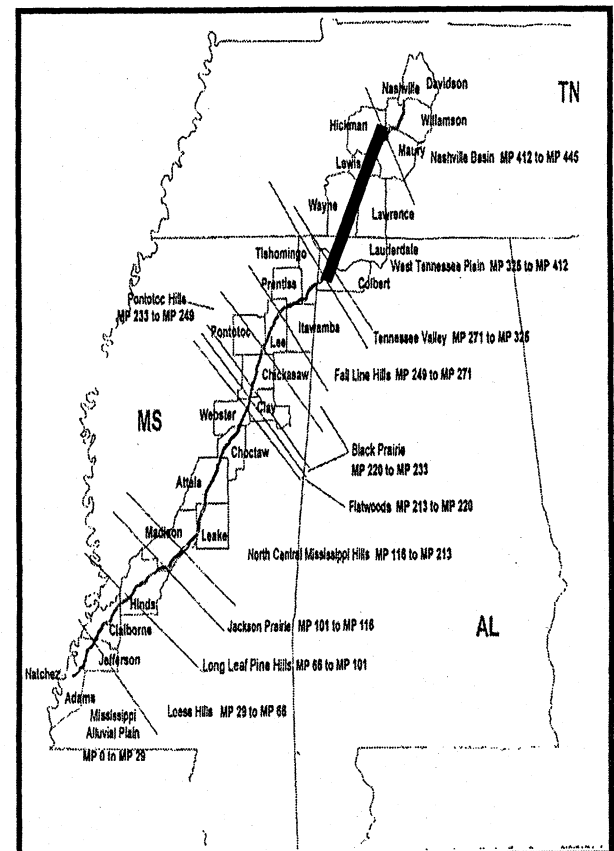
Distribution and Habitat: Prefers to stay in the neighborhood of human dwellings or bridges along the length of the Natchez Trace Parkway.

Special Habitat Requirements: Cavities or crevices for nesting.

Breeding: Nest is constructed with any locally available material in cavities, crevices or ledges of buildings and, sometimes, in trees or shrubs.

Food Habits: Eats a variety of insects, fruits, vegetables, seeds, grains and garbage.

Other information: Usually seen near towns or farmsteads or under bridges along the Parkway.



APPENDIX B

RELATIVE ABUNDANCE FACTORS FOR BIRDS OF THE NATCHEZ TRACE PARKWAY

Table B-1 Relative Abundance Factors for Bird Species Parkwide

Species	Alpha Code	BBS	SEPTCT	RC
American White Pelican	AWPE	-	1.233	-
Double-crested Cormorant	DCCO	0.001	0.423	-
Yellow-crowned Night Heron	YCNH	0.006	0.003	-
Green Heron (Green-backed Heron)	GNBH	0.004	0.003	-
Little Blue Heron	LBHE	0.008	0.007	-
Cattle Egret	CAEG	0.027	0.040	-
Snowy Egret	SNEG	-	0.007	-
Great Egret	GREG	0.025	0.097	-
Great Blue Heron	GTBH	0.051	0.170	-
Canada Goose	CAGO	0.059	0.733	-
Fulvous Whistling Duck	FUWD	-	0.003	-
Wood Duck	WODU	0.018	0.063	-
Mallard	MALL	0.017	0.010	-
Turkey Vulture	TUVU	0.120	0.193	18.333
Black Vulture	BLVU	0.075	0.063	5.778
Mississippi Kite	MIKI	0.008	-	0.500
Sharp-shinned Hawk	SSHA	-	0.003	-
Cooper's Hawk	COHA	0.019	0.050	0.667
Broad-winged Hawk	BWHA	0.026	0.020	0.889
Red-shouldered Hawk	RSHA	0.008	0.040	1.222
Red-tailed Hawk	RTHA	0.026	0.150	2.222
American Kestrel	AMKE	-	-	0.111
Wild Turkey	WITU	0.031	0.087	-
Northern Bobwhite	NOBO	0.078	0.403	-
Killdeer	KILL	0.027	0.293	-
American Woodcock	AMWO	0.001	0.003	-
Herring Gull	HERG	-	0.017	-
Royal Tern	ROYT	0.001	-	-
Rock Dove	RODO	0.006	0.030	-
Mourning Dove	MODO	0.533	0.927	-
Yellow-billed Cuckoo	YBCU	0.044	0.207	-
Black-billed Cuckoo	BBCU	0.001	-	-
Great Horned Owl	GHOW	0.015	0.010	-
Barred Owl	BAOW	0.012	0.050	-
Eastern Screech Owl	EASO	0.001	-	-
Common Nighthawk	CONI	0.001	-	-
Chuck-wills-widow	CWWI	0.020	0.027	-
Whip-poor-will	WPWI	0.029	0.043	-
Chimney Swift	CHSW	0.084	0.040	-

Table B-1 Relative Abundance Factors for Bird Species Parkwide (Continued)

Species	Alpha Code	BBS	SEPTCT	RC
Ruby-throated Hummingbird	RTHU	0.001	0.013	-
Belted Kingfisher	BEKI	0.004	0.047	-
Red-headed Woodpecker	RHWO	0.136	0.343	-
Red-bellied Woodpecker	RBWO	0.792	4.177	-
Northern (Yellow-shafted) Flicker	YSFL	0.236	0.873	-
Yellow-bellied Sapsucker	YBSA	-	0.027	-
Downy Woodpecker	DOWO	0.017	0.127	-
Hairy Woodpecker	HAWO	0.031	0.183	-
Pileated Woodpecker	PIWO	0.188	0.960	-
Eastern Wood Pewee	EAWP	0.360	0.907	-
Acadian Flycatcher	ACFL	0.017	0.087	-
Eastern Phoebe	EAPH	0.112	0.280	-
Great-crested Flycatcher	GCFL	0.133	0.170	-
Eastern Kingbird	EAKI	0.065	0.003	-
Loggerhead Shrike	LOSH	0.001	-	-
White-eyed Vireo	WEVI	0.099	0.407	-
Yellow-throated Vireo	YTVI	0.113	0.277	-
Red-eyed Vireo	REVI	0.340	0.963	-
Warbling Vireo	WAVI	0.029	0.077	-
Blue Jay	BLJA	2.557	6.800	-
American Crow	AMCR	3.116	9.463	-
Fish Crow	FICR	0.012	0.057	-
Purple Martin	PUMA	0.018	0.030	-
Cliff Swallow	CLSW	0.680	1.953	-
Northern Rough-winged Swallow	NRWS	0.001	0.033	-
Barn Swallow	BARS	0.630	1.110	-
Tufted Titmouse	ETTI	3.822	9.763	-
Carolina Chickadee	CACH	0.465	2.180	-
Brown Creeper	BRCR	-	0.017	-
White-breasted Nuthatch	WBNU	0.029	0.297	-
Red-breasted Nuthatch	RBNU	0.002	-	-
Brown-headed Nuthatch	BHNU	0.007	0.047	-
House Wren	HOWR	-	0.003	-
Winter Wren	WIWR	-	0.007	-
Carolina Wren	CARW	0.126	0.707	-
Bewick's Wren	BEWR	0.007	0.047	-
Golden-crowned Kinglet	GCKI	0.001	0.033	-
Ruby-crowned Kinglet	RCKI	-	0.007	-
Blue-gray Gnatcatcher	BGGN	0.154	0.267	-

Table B-1 Relative Abundance Factors for Bird Species Parkwide (Continued)

Species	Alpha Code	BBS	SEPTCT	RC
Eastern Bluebird	EABL	0.064	0.323	-
Wood Thrush	WOTH	0.158	0.370	-
Hermit Thrush	HETH	-	0.093	-
American Robin	AMRO	0.386	1.613	-
Gray Catbird	GRCA	0.032	0.053	-
Northern Mockingbird	NOMO	0.205	1.263	-
Brown Thrasher	BRTH	0.011	0.040	-
European Starling	EUST	0.002	0.010	-
Cedar Waxwing	CEDW	-	0.160	-
Prothonotary Warbler	PROW	0.004	0.093	-
Blue-winged Warbler	BWWA	-	0.017	-
Northern Parula	NOPA	0.015	0.053	-
Yellow-rumped (Myrtle) Warbler	MYWA	-	0.033	-
Black and White Warbler	BAWW	0.022	0.020	-
Cerulean Warbler	CERW	0.004	0.007	-
Yellow-throated Warbler	YTWA	0.028	0.020	-
Prairie Warbler	PRAW	0.035	0.087	-
Pine Warbler	PIWA	0.281	0.583	-
Yellow Warbler	YWAR	0.002	0.007	-
Kentucky Warbler	KEWA	0.047	0.160	-
Hooded Warbler	HOWA	0.172	0.483	-
Worm-eating Warbler	WEWA	0.041	0.137	-
Swainson's Warbler	SWWA	0.013	0.033	-
Louisiana Waterthrush	LOWA	0.013	0.023	-
Common Yellowthroat	COYE	0.322	0.757	-
Yellow-breasted Chat	YBCH	0.068	0.197	-
American Redstart	AMRE	0.022	0.027	-
Summer Tanager	SUTA	0.287	0.607	-
Scarlet Tanager	SCTA	0.061	0.190	-
Eastern (Rufous-sided) Towhee	RSTO	0.193	0.460	-
Bachman's Sparrow	BACS	0.007	-	-
Field Sparrow	FISP	0.008	0.287	-
Chipping Sparrow	CHSP	0.382	0.510	-
Grasshopper Sparrow	GRSP	0.001	-	-
Savannah Sparrow	SAVS	-	0.010	-
Song Sparrow	SOSP	-	0.073	-
White-throated Sparrow	WTSP	-	0.017	-
White-crowned Sparrow	WCSP	-	0.170	-
Dark-eyed (Slate-colored) Junco	SCJU	-	0.040	-

Table B-1 Relative Abundance Factors for Bird Species Parkwide (Continued)

Species	Alpha Code	BBS	SEPTCT	RC
Northern Cardinal	NOCA	0.913	2.697	-
Dickcissel	DICK	0.024	0.017	-
Blue Grosbeak	BLGR	0.052	0.130	-
Indigo Bunting	INBU	0.927	2.063	-
Painted Bunting	PABU	0.014	0.017	-
Bobolink	BOBO	0.067	-	-
Eastern Meadowlark	EAME	0.335	0.740	-
Red-winged Blackbird	RWBL	0.559	1.630	-
Common Grackle	COGR	0.085	0.090	-
Rusty Blackbird	RUBL	-	0.007	-
Brown-headed Cowbird	BHCO	0.504	0.400	-
Orchard Oriole	OROR	0.013	0.010	-
Baltimore (Northern) Oriole	BAOR	0.046	0.070	-
House Finch	HOFI	0.041	0.160	-
Pine Siskin	PISI	-	0.053	-
American Goldfinch	AMGO	0.132	0.800	-
House Sparrow	HOSP	0.005	-	-

*Parkey
milepost
0-29*

Table B-2 Relative Abundance of Bird Species Within the Four Ecosystem Provinces

Species	Alpha Code	Lower Mississippi Riverine Forest Species	Outer Coastal Plain Mixed Forest Species	South-eastern Mixed Forest Species	Eastern Broadleaf Forest (Continental) Species
American White Pelican	AWPE	-	-	0.567	-
Double-crested Cormorant	DCCO	-	-	0.196	-
Yellow-crowned Night Heron	YCNH	-	-	0.009	-
Green Heron (Green-backed Heron)	GNBH	-	-	0.006	-
Little Blue Heron	LBHE	-	0.040	0.005	-
Cattle Egret	CAEG	-	0.320	0.005	-
Snowy Egret	SNEG	0.013	0.010	-	-
Great Egret	GREG	-	0.270	0.032	-
Great Blue Heron	GTBH	0.038	0.170	0.103	0.020
Canada Goose	CAGO	0.025	0.030	0.394	0.023
Fulvous Whistling Duck	FUWD	-	-	0.002	-
Wood Duck	WODU	-	-	0.044	0.015
Mallard	MALL	-	-	0.026	-
Turkey Vulture	TUVU	0.263	0.310	0.441	0.469
Black Vulture	BLVU	0.763	0.210	0.075	0.163
Mississippi Kite	MIKI	-	0.020	0.021	0.006
Sharp-shinned Hawk	SSHA	-	-	-	0.003
Cooper's Hawk	COHA	0.038	0.050	0.034	0.038
Broad-winged Hawk	BWHA	0.013	0.020	0.037	0.023
Red-shouldered Hawk	RSHA	-	0.100	0.031	0.041
Red-tailed Hawk	RTHA	0.125	0.030	0.093	0.087
American Kestrel	AMKE	-	-	-	0.006
Wild Turkey	WITU	0.063	0.050	0.032	0.061
Northern Bobwhite	NOBO	0.038	0.030	0.139	0.262
Killdeer	KILL	-	0.100	0.116	0.073
American Woodcock	AMWO	-	-	0.006	0.003
Herring Gull	HERG	-	-	0.008	-
Royal Tern	ROYT	-	-	0.002	-
Rock Dove	RODO	-	-	0.012	0.017
Mourning Dove	MODO	0.225	0.420	0.583	0.843
Yellow-billed Cuckoo	YBCU	0.288	0.200	0.106	0.105
Black-billed Cuckoo	BBCU	-	-	-	0.003
Great Horned Owl	GHOW	-	0.010	0.021	0.003

**Table B-2 Relative Abundance of Bird Species Within the Four Ecosystem Provinces
(Continued)**

Species	Alpha Code	Lower Mississippi Riverine Forest Species	Outer Coastal Plain Mixed Forest Species	South-eastern Mixed Forest Species	Eastern Broadleaf Forest (Continental) Species
Barred Owl	BAOW	0.038	0.010	0.028	0.009
Eastern Screech Owl	EASO	-	0.010	-	-
Common Nighthawk	CONI	-	-	0.002	-
Chuck-wills-widow	CWWI	-	0.010	0.034	0.006
Whip-poor-will	WPWI	-	0.020	0.031	0.047
Chimney Swift	CHSW	0.050	0.150	0.083	0.035
Ruby-throated Hummingbird	RTHU	0.013	0.010	0.003	0.003
Belted Kingfisher	BEKI	-	0.010	0.015	0.017
Red-headed Woodpecker	RHWO	0.138	0.350	0.216	0.090
Red-bellied Woodpecker	RBWO	2.788	2.230	1.596	1.274
Northern (Yellow-shafted) Flicker	YSFL	0.413	0.420	0.368	0.429
Yellow-bellied Sapsucker	YBSA	0.013	-	0.002	0.017
Downy Woodpecker	DOWO	0.038	0.030	0.037	0.064
Hairy Woodpecker	HAWO	0.025	0.070	0.066	0.085
Pileated Woodpecker	PIWO	0.338	0.580	0.413	0.268
Eastern Wood Pewee	EAWP	0.475	0.400	0.303	0.878
Acadian Flycatcher	ACFL	0.025	0.020	0.037	0.035
Eastern Phoebe	EAPH	0.050	-	0.127	0.137
Great-crested Flycatcher	GCFL	0.125	0.350	0.145	0.070
Eastern Kingbird	EAKI	0.013	0.050	0.087	0.076
Loggerhead Shrike	LOSH	-	0.010	-	-
White-eyed Vireo	WEVI	0.200	0.230	0.167	0.172
Yellow-throated Vireo	YTVI	0.338	0.320	0.138	0.087
Red-eyed Vireo	REVI	0.613	0.610	0.450	0.499
Warbling Vireo	WAVI	0.050	0.070	0.025	0.061
Blue Jay	BLJA	2.713	1.680	2.602	3.277
American Crow	AMCR	4.588	5.900	4.948	3.770
Fish Crow	FICR	0.150	0.050	0.015	-
Purple Martin	PUMA	-	-	0.032	0.009
Cliff Swallow	CLSW	-	-	0.271	2.869
Northern Rough-winged Swallow	NRWS	0.050	0.010	0.009	-

**Table B-2 Relative Abundance of Bird Species Within the Four Ecosystem Provinces
(Continued)**

Species	Alpha Code	Lower Mississippi Riverine Forest Species	Outer Coastal Plain Mixed Forest Species	South-eastern Mixed Forest Species	Eastern Broadleaf Forest (Continental) Species
Barn Swallow	BARS	0.225	0.710	0.975	0.411
Tufted Titmouse	ETTI	5.075	5.770	5.476	4.697
Carolina Chickadee	CACH	1.813	1.520	0.832	0.195
Brown Creeper	BRCR	-	-	0.006	0.003
White-breasted Nuthatch	WBNU	0.075	0.050	0.034	0.236
Red-breasted Nuthatch	RBNU	-	-	-	0.006
Brown-headed Nuthatch	BHNU	0.013	0.050	0.014	0.015
House Wren	HOWR	-	-	0.002	-
Winter Wren	WIWR	-	0.010	0.002	-
Carolina Wren	CARW	0.375	0.430	0.320	0.108
Bewick's Wren	BEWR	-	0.010	0.017	0.023
Golden-crowned Kinglet	GCKI	-	-	0.015	0.017
Ruby-crowned Kinglet	RCKI	-	-	0.003	-
Blue-gray Gnatcatcher	BGGN	0.263	0.330	0.145	0.181
Eastern Bluebird	EABL	0.075	0.090	0.116	0.175
Wood Thrush	WOTH	0.325	0.410	0.214	0.111
Hermit Thrush	HETH	0.013	0.020	0.029	0.017
American Robin	AMRO	0.375	0.460	0.649	0.907
Gray Catbird	GRCA	0.025	0.070	0.032	0.038
Northern Mockingbird	NOMO	0.175	0.380	0.320	0.851
Brown Thrasher	BRTH	0.013	0.030	0.011	0.029
European Starling	EUST	-	-	-	0.015
Cedar Waxwing	CEDW	-	-	0.028	0.087
Prothonotary Warbler	PROW	0.025	0.040	0.034	0.009
Blue-winged Warbler	BWWA	-	-	-	0.029
Northern Parula	NOPA	0.088	0.060	0.015	0.017
Yellow-rumped (Myrtle) Warbler	MYWA	-	-	0.011	0.009
Black and White Warbler	BAWW	0.088	0.030	0.026	0.006
Cerulean Warbler	CERW	-	-	0.006	0.003
Yellow-throated Warbler	YTWA	0.100	0.030	0.026	0.006
Prairie Warbler	PRAW	0.175	0.140	0.014	0.055
Pine Warbler	PIWA	0.400	0.390	0.495	0.055

**Table B-2 Relative Abundance of Bird Species Within the Four Ecosystem Provinces
(Continued)**

Species	Alpha Code	Lower Mississippi Riverine Forest Species	Outer Coastal Plain Mixed Forest Species	South-eastern Mixed Forest Species	Eastern Broadleaf Forest (Continental) Species
Yellow Warbler	YWAR	-	-	0.006	-
Kentucky Warbler	KEWA	0.100	0.120	0.072	0.061
Hooded Warbler	HOWA	0.563	0.600	0.254	0.058
Worm-eating Warbler	WEWA	0.200	0.090	0.051	0.052
Swainson's Warbler	SWWA	0.038	0.060	0.017	0.003
Louisiana Waterthrush	LOWA	0.063	0.030	0.014	0.003
Common Yellowthroat	COYE	0.250	0.200	0.409	0.563
Yellow-breasted Chat	YBCH	0.088	0.170	0.069	0.073
American Redstart	AMRE	0.038	0.070	0.017	0.017
Summer Tanager	SUTA	0.275	0.380	0.433	0.239
Scarlet Tanager	SCTA	0.038	0.010	0.032	0.216
Eastern (Rufous-sided) Towhee	RSTO	0.113	-	0.118	0.490
Bachman's Sparrow	BACS	-	0.010	0.006	0.003
Field Sparrow	FISP	-	0.010	0.009	0.545
Chipping Sparrow	CHSP	0.163	0.160	0.440	0.469
Grasshopper Sparrow	GRSP	-	-	0.002	-
Savannah Sparrow	SAVS	0.013	-	0.002	0.003
Song Sparrow	SOSP	0.013	0.010	0.026	0.009
White-throated Sparrow	WTSP	-	-	0.006	0.003
White-crowned Sparrow	WCSP	0.025	-	0.021	0.102
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	0.035
Northern Cardinal	NOCA	1.350	1.720	1.369	1.192
Dickcissel	DICK	-	0.020	0.034	0.003
Blue Grosbeak	BLGR	0.175	0.140	0.070	0.026
Indigo Bunting	INBU	0.938	0.990	1.104	1.487
Painted Bunting	PABU	-	0.010	0.011	0.026
Bobolink	BOBO	-	-	0.087	-
Eastern Meadowlark	EAME	0.063	0.250	0.378	0.668
Red-winged Blackbird	RWBL	0.125	0.880	0.868	0.577
Common Grackle	COGR	-	0.020	0.110	0.061
Rusty Blackbird	RUBL	-	-	-	0.006

**Table B-2 Relative Abundance of Bird Species Within the Four Ecosystem Provinces
(Continued)**

Species	Alpha Code	Lower Mississippi Riverine Forest Species	Outer Coastal Plain Mixed Forest Species	South- eastern Mixed Forest Species	Eastern Broadleaf Forest (Continental) Species
Brown-headed Cowbird	BHCO	0.300	0.580	0.440	0.516
Orchard Oriole	OROR	-	0.020	0.009	0.017
Baltimore (Northern) Oriole	BAOR	0.088	0.050	0.035	0.073
House Finch	HOFI	0.200	0.080	0.063	0.052
Pine Siskin	PISI	-	-	0.014	0.020
American Goldfinch	AMGO	0.513	0.170	0.145	0.580
House Sparrow	HOSP	-	-	-	0.012

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Leaf Pine Hills Species BBS	Long Leaf Pine Hills Species SEPTCT
American White Pelican	AWPE	-	-	-	-	-	-
Double-crested Cormorant	DCCO	-	-	-	-	-	-
Yellow-crowned Night Heron	YCNH	-	-	-	-	0.024	-
Green Heron (Green-backed Heron)	GNBH	-	-	-	-	-	-
Little Blue Heron	LBHE	-	-	0.041	0.040	-	-
Cattle Egret	CAEG	-	-	0.311	0.360	-	-
Snowy Egret	SNEG	-	0.053	-	0.040	-	-
Great Egret	GREG	-	-	0.122	0.720	-	-
Great Blue Heron	GTBH	0.040	0.053	0.054	0.520	0.048	0.174
Canada Goose	CAGO	-	0.105	-	0.120	0.190	0.261
Fulvous Whistling Duck	FUWD	-	-	-	-	-	-
Wood Duck	WODU	-	-	-	-	-	0.087
Mallard	MALL	-	-	-	-	-	-
Turkey Vulture	TUVU	0.120	-	0.081	0.120	0.452	0.696
Black Vulture	BLVU	0.360	-	0.135	0.120	0.548	0.217
Mississippi Kite	MIKI	-	-	0.027	-	-	-
Sharp-shinned Hawk	SSHA	-	-	-	-	-	-
Cooper's Hawk	COHA	0.020	0.053	0.027	0.080	0.024	-
Broad-winged Hawk	BWHA	-	-	0.014	-	0.071	-
Red-shouldered Hawk	RSHA	-	-	-	0.080	-	0.043
Red-tailed Hawk	RTHA	0.040	0.316	0.041	0.120	0.048	0.217
American Kestrel	AMKE	-	-	-	-	-	-
Wild Turkey	WITU	0.080	0.053	0.041	0.080	0.024	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Leaf Pine Hills Species BBS	Long Leaf Pine Hills Species SEPTCT
Northern Bobwhite	NOBO	-	0.158	-	0.120	-	0.130
Killdeer	KILL	-	-	-	0.400	-	1.043
American Woodcock	AMWO	-	-	-	-	-	-
Herring Gull	HERG	-	-	-	-	-	-
Royal Tern	ROYT	-	-	-	-	-	-
Rock Dove	RODO	-	-	-	-	0.024	-
Mourning Dove	MODO	0.140	0.579	0.378	0.560	0.619	2.000
Yellow-billed Cuckoo	YBCU	0.340	0.316	0.162	0.320	0.071	0.217
Black-billed Cuckoo	BBCU	-	-	-	-	-	-
Great Horned Owl	GHOW	-	-	0.014	-	0.048	0.043
Barred Owl	BAOW	0.020	0.105	-	0.040	0.048	0.043
Eastern Screech Owl	EASO	-	-	0.014	-	-	-
Common Nighthawk	CONI	-	-	-	-	-	-
Chuck-wills-widow	CWWI	-	-	0.014	-	0.071	-
Whip-poor-will	WPWI	-	-	0.014	0.040	-	0.043
Chimney Swift	CHSW	0.080	-	0.176	-	0.024	-
Ruby-throated Hummingbird	RTHU	0.020	-	-	0.040	-	0.043
Belted Kingfisher	BEKI	-	-	-	0.040	-	0.043
Red-headed Woodpecker	RHWO	0.180	0.105	0.324	0.440	0.095	0.435
Red-bellied Woodpecker	RBWO	1.360	8.158	1.135	5.560	0.738	4.609
Northern (Yellow-shafted) Flicker	YSFL	0.340	0.842	0.203	1.080	0.310	0.826
Yellow-bellied Sapsucker	YBSA	-	0.053	-	-	-	-
Downy Woodpecker	DOWO	0.020	0.105	0.014	0.080	0.048	0.261

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Pine Hills Species BBS	Long Pine Hills Species SEPTCT
Hairy Woodpecker	HAWO	0.040	-	0.041	0.160	0.024	0.130
Pileated Woodpecker	PIWO	0.120	1.105	0.270	1.520	0.119	1.174
Eastern Wood Pewee	EAWP	0.300	1.211	0.243	0.880	0.048	0.652
Acadian Flycatcher	ACFL	-	0.105	0.014	0.040	-	0.130
Eastern Phoebe	EAPH	-	0.211	-	-	-	0.043
Great-crested Flycatcher	GCFL	0.120	0.211	0.419	0.160	0.405	0.304
Eastern Kingbird	EAKI	-	0.053	0.054	0.040	0.143	0.043
Loggerhead Shrike	LOSH	-	-	0.014	-	-	-
White-eyed Vireo	WEVI	0.140	0.474	-	0.920	0.095	0.391
Yellow-throated Vireo	YTVI	0.260	0.737	0.203	0.680	0.071	0.174
Red-eyed Vireo	REVI	0.440	1.421	0.446	1.120	0.119	0.522
Warbling Vireo	WAVI	0.060	0.053	0.081	0.040	-	-
Blue Jay	BLJA	1.840	6.579	0.905	4.040	1.738	5.609
American Crow	AMCR	3.020	11.368	4.054	11.600	3.429	10.783
Fish Crow	FICR	0.040	0.526	0.027	0.120	0.024	-
Purple Martin	PUMA	-	-	-	-	-	-
Cliff Swallow	CLSW	-	-	-	0.080	-	-
Northern Rough-winged Swallow	NRWS	-	0.211	0.014	-	-	-
Barn Swallow	BARS	0.180	0.474	0.811	0.440	0.810	1.391
Tufted Titmouse	ETTI	3.420	12.368	3.946	11.400	4.786	11.478
Carolina Chickadee	CACH	1.740	3.053	1.000	3.120	0.405	2.652
Brown Creeper	BRCR	-	-	-	-	-	-
White-breasted Nuthatch	WBNU	0.020	0.263	-	0.200	-	0.087

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Leaf Pine Hills Species BBS	Long Leaf Pine Hills Species SEPTCT
Red-breasted Nuthatch	RBNU	--	-	-	-	-	-
Brown-headed Nuthatch	BHNU	-	0.053	0.054	0.040	-	0.043
House Wren	HOWR	-	-	-	-	-	0.043
Winter Wren	WIWR	-	-	-	0.040	-	-
Carolina Wren	CARW	0.200	1.053	0.257	0.960	0.143	1.174
Bewick's Wren	BEWR	-	-	-	0.040	-	0.087
Golden-crowned Kinglet	GCKI	-	-	-	-	-	-
Ruby-crowned Kinglet	RCKI	-	-	-	-	-	0.043
Blue-gray Gnatcatcher	BGGN	0.280	0.368	0.203	0.720	0.119	0.217
Eastern Bluebird	EABL	0.060	0.158	0.054	0.200	0.119	0.261
Wood Thrush	WOTH	0.240	0.737	0.338	0.640	0.310	0.478
Hermit Thrush	HETH	-	0.053	-	0.080	-	0.087
American Robin	AMRO	0.080	1.368	0.176	1.320	0.095	1.000
Gray Catbird	GRCA	0.020	0.053	0.068	0.080	0.095	0.174
Northern Mockingbird	NOMO	0.140	0.368	0.297	0.640	0.119	1.000
Brown Thrasher	BRTH	0.020	-	0.027	0.040	-	0.043
European Starling	EUST	-	-	-	-	-	-
Cedar Waxwing	CEDW	-	-	-	-	-	0.087
Prothonotary Warbler	PROW	0.020	0.053	0.014	0.120	0.024	0.130
Blue-winged Warbler	BWWA	-	-	-	-	-	-
Northern Parula	NOPA	0.100	0.105	0.027	0.160	0.048	0.043
Yellow-rumped (Myrtle) Warbler	MYWA	-	-	-	-	-	-
Black and White Warbler	BAWW	0.060	0.211	0.027	0.040	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Leaf Pine Hills Species BBS	Long Leaf Pine Hills Species SEPTCT
Cerulean Warbler	CERW	-	-	-	-	-	-
Yellow-throated Warbler	YTWA	0.160	-	0.041	-	-	-
Prairie Warbler	PRAW	0.140	0.368	0.122	0.200	0.024	-
Pine Warbler	PIWA	0.380	0.684	0.324	0.600	0.190	0.870
Yellow Warbler	YWAR	-	-	-	-	-	0.043
Kentucky Warbler	KEWA	0.100	0.158	0.041	0.360	0.048	0.130
Hooded Warbler	HOWA	0.400	1.316	0.378	1.280	0.143	0.304
Worm-eating Warbler	WEWA	0.180	0.368	0.081	0.120	0.119	0.174
Swainson's Warbler	SWWA	0.060	-	0.081	-	-	-
Louisiana Waterthrush	LOWA	0.060	0.105	0.041	-	0.024	0.087
Common Yellowthroat	COYE	0.220	0.474	0.162	0.320	0.286	0.652
Yellow-breasted Chat	YBCH	-	0.368	0.135	0.280	0.143	0.174
American Redstart	AMRE	0.040	0.053	0.041	0.160	0.048	0.043
Summer Tanager	SUTA	0.240	0.526	0.216	0.880	0.262	0.652
Scarlet Tanager	SCTA	0.040	0.053	0.014	-	-	-
Eastern (Rufous-sided) Towhee	RSTO	0.180	-	-	-	0.048	0.043
Bachman's Sparrow	BACS	-	-	0.014	-	-	-
Field Sparrow	FISP	-	-	0.014	-	-	-
Chipping Sparrow	CHSP	0.100	0.421	0.081	0.400	0.238	0.217
Grasshopper Sparrow	GRSP	-	-	-	-	-	-
Savannah Sparrow	SAVS	-	0.053	-	-	-	-
Song Sparrow	SOSP	-	0.053	-	0.040	-	0.087
White-throated Sparrow	WTSP	-	-	-	-	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Mississippi Alluvial Plain Species BBS	Mississippi Alluvial Plain Species SEPTCT	Loess Hills Species BBS	Loess Hills Species SEPTCT	Long Leaf Pine Hills Species BBS	Long Leaf Pine Hills Species SEPTCT
White-crowned Sparrow	WCSP	-	0.105	-	-	-	-
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	-	-	-
Northern Cardinal	NOCA	1.120	2.737	1.149	3.480	1.524	4.435
Dickcissel	DICK	-	-	0.027	-	-	-
Blue Grosbeak	BLGR	0.160	0.316	0.122	0.200	0.024	0.043
Indigo Bunting	INBU	0.620	2.316	0.649	2.040	0.810	1.739
Painted Bunting	PABU	-	-	-	0.040	-	-
Bobolink	BOBO	-	-	-	-	-	-
Eastern Meadowlark	EAME	0.060	0.105	0.284	0.160	0.310	1.000
Red-winged Blackbird	RWBL	0.140	0.158	0.946	0.720	0.881	10.000
Common Grackle	COGR	-	-	-	0.080	-	0.087
Rusty Blackbird	RUBL	-	-	-	-	-	-
Brown-headed Cowbird	BHCO	0.300	0.474	0.514	0.840	0.452	0.826
Orchard Oriole	OROR	-	-	0.027	-	0.024	-
Baltimore (Northern) Oriole	BAOR	0.120	0.053	0.068	-	0.048	0.043
House Finch	HOFI	0.200	0.316	0.108	-	-	0.043
Pine Siskin	PISI	-	-	-	-	-	-
American Goldfinch	AMGO	0.160	1.737	0.081	0.440	-	0.391
House Sparrow	HOSP	-	-	-	-	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N C. Miss. Hills Species BBS	N C. Miss. Hills Species SEPTCT	Flatwoods Species BBS	Flatwoods Species SEPTCT
American White Pelican	AWPE	-	37.000	-	-	-	-
Double-crested Cormorant	DCCO	0.033	12.700	-	-	-	-
Yellow-crowned Night Heron	YCNH	-	-	0.005	0.015	-	-
Green Heron (Green-backed Heron)	GNBH	-	-	-	-	-	-
Little Blue Heron	LBHE	0.067	0.100	-	-	-	-
Cattle Egret	CAEG	-	-	-	0.045	-	-
Snowy Egret	SNEG	-	-	-	-	-	-
Great Egret	GREG	0.333	0.600	0.010	0.076	-	-
Great Blue Heron	GTBH	0.433	1.400	0.046	0.106	-	-
Canada Goose	CAGO	0.800	16.000	0.057	0.621	-	-
Fulvous Whistling Duck	FUWD	-	-	-	-	-	-
Wood Duck	WODU	-	-	0.041	0.121	-	-
Mallard	MALL	0.267	0.300	0.021	-	-	-
Turkey Vulture	TUVU	-	-	0.129	0.167	0.786	1.400
Black Vulture	BLVU	0.033	0.100	0.026	0.091	-	-
Mississippi Kite	MIKI	-	-	0.021	-	-	-
Sharp-shinned Hawk	SSHA	-	-	-	-	-	-
Cooper's Hawk	COHA	-	-	0.031	0.091	0.071	-
Broad-winged Hawk	BWHA	-	-	0.021	0.015	-	0.200
Red-shouldered Hawk	RSHA	-	-	0.010	0.045	-	-
Red-tailed Hawk	RTHA	-	-	0.015	0.136	0.214	0.600
American Kestrel	AMKE	-	-	-	-	-	-
Wild Turkey	WITU	-	-	0.021	0.030	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N. C. Miss. Hills Species BBS	N. C. Miss. Hills Species SEPTCT	Flatwoods species BBS	Flatwoods Species SEPTCT
Northern Bobwhite	NOBO	-	-	0.010	0.409	-	-
Killdeer	KILL	-	1.200	0.015	0.167	-	-
American Woodcock	AMWO	-	-	0.015	0.015	-	-
Herring Gull	HERG	-	0.300	-	-	-	-
Royal Tern	ROYT	0.033	-	-	-	-	-
Rock Dove	RODO	-	-	0.010	-	-	-
Mourning Dove	MODO	0.367	0.200	0.381	0.500	0.214	1.600
Yellow-billed Cuckoo	YBCU	-	0.200	0.052	0.136	-	0.200
Black-billed Cuckoo	BBCU	-	-	-	-	-	-
Great Horned Owl	GHOW	-	-	0.015	0.015	-	-
Barred Owl	BAOW	-	-	0.010	0.061	-	-
Eastern Screech Owl	EASO	-	-	-	-	-	-
Common Nighthawk	CONI	-	-	0.005	-	-	-
Chuck-wills-widow	CWWI	-	0.100	0.015	0.061	-	-
Whip-poor-will	WPWI	-	-	0.021	-	-	-
Chimney Swift	CHSW	0.133	0.200	0.088	0.030	-	-
Ruby-throated Hummingbird	RTHU	-	-	-	-	-	-
Belted Kingfisher	BEKI	-	0.100	-	-	-	-
Red-headed Woodpecker	RHWO	0.033	0.400	0.216	0.409	-	0.800
Red-bellied Woodpecker	RBWO	0.533	2.100	0.948	5.015	0.143	3.400
Northern (Yellow-shafted) Flicker	YSFL	0.033	0.500	0.232	1.364	0.357	0.200
Yellow-bellied Sapsucker	YBSA	-	-	-	0.015	-	-
Downy Woodpecker	DOWO	0.033	0.300	0.010	0.061	-	0.200

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N. C. Miss. Hills Species BBS	N. C. Miss. Hills Species SEPTCT	Flatwoods Species BBS	Flatwoods Species SEPTCT
Hairy Woodpecker	HAWO	-	0.100	0.021	0.273	0.143	-
Pileated Woodpecker	PIWO	0.033	0.600	0.263	1.258	0.071	0.600
Eastern Wood Pewee	EAWP	0.067	0.900	0.232	0.470	0.500	0.800
Acadian Flycatcher	ACFL	-	-	0.031	0.091	0.071	-
Eastern Phoebe	EAPH	-	-	0.077	0.197	0.143	-
Great-crested Flycatcher	GCFL	0.233	-	0.093	0.212	0.214	0.400
Eastern Kingbird	EAKI	0.100	0.500	0.067	0.061	-	-
Loggerhead Shrike	LOSH	-	-	-	-	-	-
White-eyed Vireo	WEVI	0.033	0.200	0.087	0.364	0.357	0.400
Yellow-throated Vireo	YTVI	-	-	0.139	0.424	0.143	0.200
Red-eyed Vireo	REVI	0.167	-	0.356	1.091	0.286	1.000
Warbling Vireo	WAVI	0.033	-	0.015	0.076	0.071	-
Blue Jay	BLJA	4.033	10.200	3.474	7.818	3.000	7.200
American Crow	AMCR	3.733	7.900	3.979	10.788	3.000	10.200
Fish Crow	FICR	0.067	0.200	0.015	-	-	-
Purple Martin	PUMA	0.100	0.100	0.010	0.061	0.143	-
Cliff Swallow	CLSW	-	-	-	-	-	-
Northern Rough-winged Swallow	NRWS	-	-	-	-	-	-
Barn Swallow	BARS	0.300	1.100	0.722	1.227	1.429	1.200
Tufted Titmouse	ETTI	3.533	10.600	3.938	9.939	2.929	11.600
Carolina Chickadee	CACH	0.833	2.500	0.381	2.273	0.286	0.600
Brown Creeper	BRCR	-	-	-	-	-	-
White-breasted Nuthatch	WBNU	0.033	-	0.005	0.227	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N. C. Miss. Hills Species BBS	N. C. Miss. Hills Species SEPTCT	Flatwoods Species BBS	Flatwoods Species SEPTCT
Red-breasted Nuthatch	RBNU	-	-	-	-	-	-
Brown-headed Nuthatch	BHNU	-	-	0.005	0.076	-	-
House Wren	HOWR	-	-	-	-	-	-
Winter Wren	WIWR	-	-	-	0.015	-	-
Carolina Wren	CARW	0.200	1.700	0.093	0.621	0.071	2.000
Bewick's Wren	BEWR	-	-	-	0.030	-	-
Golden-crowned Kinglet	GCKI	-	-	-	0.030	-	0.400
Ruby-crowned Kinglet	RCKI	-	-	-	0.015	-	-
Blue-gray Gnatcatcher	BGGN	0.100	-	0.124	0.061	0.071	0.600
Eastern Bluebird	EABL	0.067	0.100	0.026	0.182	0.429	0.400
Wood Thrush	WOTH	0.300	0.700	0.201	0.394	-	0.400
Hermit Thrush	HETH	-	0.100	-	0.136	-	0.200
American Robin	AMRO	0.067	0.500	0.345	2.288	0.286	1.800
Gray Catbird	GRCA	0.033	0.100	0.015	-	-	-
Northern Mockingbird	NOMO	0.467	1.000	0.206	0.242	0.286	0.600
Brown Thrasher	BRTH	0.033	-	0.010	-	-	-
European Starling	EUST	-	-	-	-	-	-
Cedar Waxwing	CEDW	-	-	-	0.212	-	-
Prothonotary Warbler	PROW	-	-	-	0.152	-	-
Blue-winged Warbler	BWWA	-	-	-	-	-	-
Northern Parula	NOPA	-	-	0.010	0.076	-	-
Yellow-rumped (Myrtle) Warbler	MYWA	-	-	-	0.045	-	-
Black and White Warbler	BAWW	-	-	0.057	0.030	0.071	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N. C. Miss. Hills Species BBS	N. C. Miss. Hills Species SEPTCT	Flatwoods Species BBS	Flatwoods Species SEPTCT
Cerulean Warbler	CERW	0.033	-	-	-	-	-
Yellow-throated Warbler	YTWA	-	-	0.026	0.061	0.143	-
Prairie Warbler	PRAW	-	-	0.010	0.045	-	-
Pine Warbler	PIWA	0.200	0.500	0.582	1.076	0.286	0.800
Yellow Warbler	YWAR	-	-	0.010	-	-	-
Kentucky Warbler	KEWA	0.033	0.300	0.067	0.182	-	0.200
Hooded Warbler	HOWA	0.033	0.800	0.330	0.803	0.143	-
Worm-eating Warbler	WEWA	0.067	-	0.021	0.152	-	0.200
Swainson's Warbler	SWWA	-	-	0.005	0.106	-	-
Louisiana Waterthrush	LOWA	-	-	0.010	0.030	-	-
Common Yellowthroat	COYE	0.100	0.300	0.237	0.591	0.143	0.600
Yellow-breasted Chat	YBCH	0.033	-	0.041	0.091	0.071	-
American Redstart	AMRE	0.033	-	0.031	-	-	-
Summer Tanager	SUTA	0.233	0.900	0.356	0.985	0.357	0.200
Scarlet Tanager	SCTA	-	-	0.021	0.045	-	-
Eastern (Rufous-sided) Towhee	RSTO	-	0.300	0.108	0.152	-	-
Bachman's Sparrow	BACS	-	-	-	-	-	-
Field Sparrow	FISP	-	-	-	-	-	-
Chipping Sparrow	CHSP	0.933	0.600	0.443	0.470	0.286	0.200
Grasshopper Sparrow	GRSP	-	-	-	-	-	-
Savannah Sparrow	SAVS	-	-	-	-	-	-
Song Sparrow	SOSP	-	0.300	-	-	-	-
White-throated Sparrow	WTSP	-	-	-	-	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Jackson Prairie Species BBS	Jackson Prairie Species SEPTCT	N. C. Miss. Hills Species BBS	N. C. Miss. Hills Species SEPTCT	Flatwoods Species BBS	Flatwoods Species SEPTCT
White-crowned Sparrow	WCSP	-	-	-	0.030	-	-
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	-	-	-
Northern Cardinal	NOCA	2.200	3.900	0.701	1.985	0.286	2.600
Dickcissel	DICK	-	-	-	-	-	-
Blue Grosbeak	BLGR	-	-	0.052	0.182	-	-
Indigo Bunting	INBU	0.400	1.300	0.644	1.864	0.500	2.600
Painted Bunting	PABU	-	-	-	0.015	-	-
Bobolink	BOBO	-	-	-	-	-	-
Eastern Meadowlark	EAME	0.067	-	0.222	0.515	0.286	1.200
Red-winged Blackbird	RWBL	0.433	1.600	0.253	0.318	0.071	-
Common Grackle	COGR	0.500	0.500	0.062	0.121	-	-
Rusty Blackbird	RUBL	-	-	-	-	-	-
Brown-headed Cowbird	BHCO	1.567	0.600	0.309	0.121	0.714	0.200
Orchard Oriole	OROR	-	-	0.021	0.015	-	-
Baltimore (Northern) Oriole	BAOR	-	0.100	0.021	0.030	0.071	-
House Finch	HOFI	-	-	0.026	0.091	-	-
Pine Siskin	PISI	-	-	-	0.076	-	0.400
American Goldfinch	AMGO	0.300	0.300	0.010	0.500	-	0.400
House Sparrow	HOSP	-	-	-	-	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
American White Pelican	AWPE	-	-	-	-	-	-
Double-crested Cormorant	DCCO	-	-	-	-	-	-
Yellow-crowned Night Heron	YCNH	0.028	-	0.031	-	-	-
Green Heron (Green-backed Heron)	GNBH	0.028	-	-	-	0.011	0.033
Little Blue Heron	LBHE	-	-	-	-	-	-
Cattle Egret	CAEG	-	-	-	-	-	-
Snowy Egret	SNEG	-	-	-	-	-	-
Great Egret	GREG	-	-	-	-	-	-
Great Blue Heron	GTBH	0.097	0.167	-	-	0.022	0.200
Canada Goose	CAGO	0.083	-	-	-	0.011	-
Fulvous Whistling Duck	FUWD	-	-	-	-	-	0.033
Wood Duck	WODU	-	0.042	-	-	0.056	0.167
Mallard	MALL	0.014	-	-	-	0.011	-
Turkey Vulture	TUVU	-	0.417	0.344	0.200	-	0.067
Black Vulture	BLVU	-	0.083	-	-	-	-
Mississippi Kite	MIKI	-	-	-	-	0.011	-
Sharp-shinned Hawk	SSHA	-	-	-	-	-	-
Cooper's Hawk	COHA	-	-	-	-	0.011	0.067
Broad-winged Hawk	BWHA	0.014	-	-	0.100	0.011	0.033
Red-shouldered Hawk	RSHA	0.028	-	0.031	-	0.011	-
Red-tailed Hawk	RTHA	0.028	0.042	-	0.200	0.011	0.233
American Kestrel	AMKE	-	-	-	-	-	-
Wild Turkey	WITU	-	0.083	-	0.100	0.067	0.167

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
Northern Bobwhite	NOBO	0.056	0.333	0.031	-	0.244	0.800
Killdeer	KILL	0.083	0.125	-	0.200	0.033	0.400
American Woodcock	AMWO	-	-	-	-	-	-
Herring Gull	HERG	-	0.083	-	-	-	-
Royal Tern	ROYT	-	-	-	-	-	-
Rock Dove	RODO	-	-	-	-	-	0.167
Mourning Dove	MODO	0.625	0.833	0.219	0.900	0.811	0.800
Yellow-billed Cuckoo	YBCU	0.097	0.333	0.094	0.200	0.133	0.233
Black-billed Cuckoo	BBCU	-	-	-	-	-	-
Great Horned Owl	GHOW	0.042	-	0.125	-	-	-
Barred Owl	BAOW	0.056	0.125	0.031	-	-	0.033
Eastern Screech Owl	EASO	-	-	-	-	-	-
Common Nighthawk	CONI	-	-	-	-	-	-
Chuck-wills-widow	CWWI	0.097	0.125	0.031	-	-	-
Whip-poor-will	WPWI	0.014	0.042	0.031	0.200	0.100	0.033
Chimney Swift	CHSW	0.111	0.292	0.125	-	0.089	0.033
Ruby-throated Hummingbird	RTHU	-	-	-	-	-	0.033
Belted Kingfisher	BEKI	0.014	0.125	-	-	0.011	0.100
Red-headed Woodpecker	RHWO	0.083	0.333	0.188	0.200	0.111	0.567
Red-bellied Woodpecker	RBWO	0.681	2.958	0.594	3.500	0.722	3.167
Northern (Yellow-shafted) Flicker	YSFL	0.194	0.542	0.188	0.900	0.244	1.233
Yellow-bellied Sapsucker	YBSA	-	-	-	-	-	0.033
Downy Woodpecker	DOWO	0.014	0.125	-	-	0.011	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
Hairy Woodpecker	HAWO	-	0.167	0.031	0.100	0.044	0.167
Pileated Woodpecker	PIWO	0.125	0.250	0.125	1.000	0.278	1.300
Eastern Wood Pewee	EAWP	0.181	0.417	0.125	0.100	0.344	0.800
Acadian Flycatcher	ACFL	-	0.042	0.031	0.100	0.033	0.067
Eastern Phoebe	EAPH	0.153	0.167	0.094	0.100	0.211	0.467
Great-crested Flycatcher	GCFL	0.083	0.167	0.063	-	0.089	0.233
Eastern Kingbird	EAKI	0.125	0.375	0.063	-	0.022	0.100
Loggerhead Shrike	LOSH	-	-	-	-	-	-
White-eyed Vireo	WEVI	0.097	0.250	0.063	0.500	0.167	0.333
Yellow-throated Vireo	YTVI	0.028	0.125	0.063	-	0.133	0.233
Red-eyed Vireo	REVI	0.097	0.583	0.313	1.000	0.511	1.233
Warbling Vireo	WAVI	0.014	0.042	0.031	-	0.011	0.067
Blue Jay	BLJA	3.542	8.292	2.594	8.600	2.167	6.267
American Crow	AMCR	2.639	7.792	2.438	7.500	2.844	9.500
Fish Crow	FICR	-	-	-	-	-	0.067
Purple Martin	PUMA	0.014	0.125	-	-	0.056	-
Cliff Swallow	CLSW	-	0.917	-	-	0.122	4.800
Northern Rough-winged Swallow	NRWS	-	-	-	-	-	0.200
Barn Swallow	BARS	1.333	2.042	1.125	2.500	0.756	1.000
Tufted Titmouse	ETTI	4.361	9.917	4.063	9.800	3.889	8.333
Carolina Chickadee	CACH	0.264	2.417	0.188	2.200	0.233	1.933
Brown Creeper	BRCR	-	-	-	-	-	0.133
White-breasted Nuthatch	WBNU	-	-	-	-	0.011	0.067

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
Red-breasted Nuthatch	RBNU	-	-	-	-	-	-
Brown-headed Nuthatch	BHNU	-	-	-	0.100	-	0.033
House Wren	HOWR	-	-	-	-	-	-
Winter Wren	WIWR	-	-	-	-	-	-
Carolina Wren	CARW	0.111	1.000	0.094	1.200	0.156	0.733
Bewick's Wren	BEWR	-	-	-	-	0.033	0.133
Golden-crowned Kinglet	GCKI	-	0.083	-	-	-	0.133
Ruby-crowned Kinglet	RCKI	-	-	-	-	-	-
Blue-gray Gnatcatcher	BGGN	0.125	0.292	0.094	0.400	0.200	0.300
Eastern Bluebird	EABL	0.028	0.458	-	0.300	0.056	0.533
Wood Thrush	WOTH	0.208	0.208	-	0.400	0.067	0.100
Hermit Thrush	HETH	-	-	-	0.300	-	0.100
American Robin	AMRO	0.222	2.042	0.156	1.300	0.389	1.367
Gray Catbird	GRCA	0.042	-	-	0.100	0.033	0.033
Northern Mockingbird	NOMO	0.403	0.792	0.094	0.300	0.189	0.767
Brown Thrasher	BRTH	0.014	0.083	-	-	-	-
European Starling	EUST	-	-	-	-	-	-
Cedar Waxwing	CEDW	-	-	-	-	-	0.067
Prothonotary Warbler	PROW	-	0.042	-	-	-	0.233
Blue-winged Warbler	BWWA	-	-	-	-	-	-
Northern Parula	NOPA	-	-	-	-	-	-
Yellow-rumped (Myrtle) Warbler	MYWA	-	0.083	-	-	-	-
Black and White Warbler	BAWW	-	-	-	-	0.011	0.067

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
Cerulean Warbler	CERW	-	-	0.031	-	-	0.067
Yellow-throated Warbler	YTWA	-	-	0.031	0.100	0.033	0.033
Prairie Warbler	PRAW	-	0.083	-	-	-	0.033
Pine Warbler	PIWA	0.208	0.667	0.156	0.800	0.311	0.667
Yellow Warbler	YWAR	-	-	-	-	-	0.033
Kentucky Warbler	KEWA	0.028	0.042	0.063	0.100	0.044	0.067
Hooded Warbler	HOWA	0.042	0.083	0.063	-	0.122	0.233
Worm-eating Warbler	WEWA	0.014	0.042	0.031	0.200	0.011	0.033
Swainson's Warbler	SWWA	-	0.042	-	-	-	0.067
Louisiana Waterthrush	LOWA	-	-	0.031	-	0.011	-
Common Yellowthroat	COYE	0.389	0.750	0.344	0.100	0.467	1.467
Yellow-breasted Chat	YBCH	0.028	0.125	0.031	0.200	0.067	0.167
American Redstart	AMRE	-	-	-	0.100	-	-
Summer Tanager	SUTA	0.194	0.250	0.313	0.700	0.444	0.800
Scarlet Tanager	SCTA	-	0.125	0.031	0.200	0.056	0.100
Eastern (Rufous-sided) Towhee	RSTO	0.472	1.042	-	0.200	0.167	0.400
Bachman's Sparrow	BACS	0.056	-	-	-	-	-
Field Sparrow	FISP	-	-	-	-	0.067	-
Chipping Sparrow	CHSP	0.375	0.292	0.406	0.700	0.444	0.733
Grasshopper Sparrow	GRSP	0.014	-	-	-	-	-
Savannah Sparrow	SAVS	-	-	-	-	-	0.033
Song Sparrow	SOSP	-	0.292	-	-	-	0.167
White-throated Sparrow	WTSP	-	-	-	-	-	0.133

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Black Prairie Species BBS	Black Prairie Species SEPTCT	Pontotoc Hills Species BBS	Pontotoc Hills Species SEPTCT	Fall Line Hills Species BBS	Fall Line Hills Species SEPTCT
White-crowned Sparrow	WCSP	-	0.292	-	0.300	-	0.067
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	-	-	-
Northern Cardinal	NOCA	1.069	3.167	0.594	3.300	0.689	2.400
Dickcissel	DICK	0.208	0.208	-	-	0.022	-
Blue Grosbeak	BLGR	0.083	0.083	0.063	0.400	0.033	0.167
Indigo Bunting	INBU	0.819	2.333	0.969	2.200	1.289	2.333
Painted Bunting	PABU	0.014	-	-	-	0.056	-
Bobolink	BOBO	0.250	-	-	-	0.111	-
Eastern Meadowlark	EAME	0.778	0.333	0.250	0.600	0.256	0.700
Red-winged Blackbird	RWBL	1.472	1.958	0.531	0.300	0.611	2.400
Common Grackle	COGR	0.194	0.208	0.094	-	0.089	-
Rusty Blackbird	RUBL	-	-	-	-	-	-
Brown-headed Cowbird	BHCO	0.653	0.583	0.125	0.500	0.478	0.133
Orchard Oriole	OROR	-	-	-	-	-	-
Baltimore (Northern) Oriole	BAOR	-	0.083	-	-	0.044	0.200
House Finch	HOFI	0.083	0.083	0.063	0.100	0.011	0.567
Pine Siskin	PISI	-	-	-	-	-	0.067
American Goldfinch	AMGO	0.014	-	-	0.400	0.022	1.000
House Sparrow	HOSP	-	-	-	-	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
American White Pelican	AWPE	-	-	-	-	-	-
Double-crested Cormorant	DCCO	-	-	-	-	-	-
Yellow-crowned Night Heron	YCNH	-	-	-	-	-	-
Green Heron (Green-backed Heron)	GNBH	-	-	-	-	-	-
Little Blue Heron	LBHE	-	-	-	-	-	-
Cattle Egret	CAEG	-	-	-	-	-	-
Snowy Egret	SNEG	-	-	-	-	-	-
Great Egret	GREG	-	-	-	-	-	-
Great Blue Heron	GTBH	-	-	0.023	0.050	-	-
Canada Goose	CAGO	-	-	-	0.100	-	0.091
Fulvous Whistling Duck	FUWD	-	-	-	-	-	-
Wood Duck	WODU	-	0.500	0.011	-	-	-
Mallard	MALL	-	-	-	-	-	-
Turkey Vulture	TUVU	-	-	0.092	0.083	0.317	0.091
Black Vulture	BLVU	-	-	0.023	-	0.050	0.091
Mississippi Kite	MIKI	-	-	-	-	-	-
Sharp-shinned Hawk	SSHA	-	-	-	-	-	0.045
Cooper's Hawk	COHA	0.125	0.167	0.011	0.033	-	0.045
Broad-winged Hawk	BWHA	-	-	0.017	-	-	0.091
Red-shouldered Hawk	RSHA	0.063	-	-	0.100	-	-
Red-tailed Hawk	RTHA	0.125	0.167	0.017	0.117	0.017	0.045
American Kestrel	AMKE	-	-	-	-	-	-
Wild Turkey	WITU	-	-	0.023	0.217	0.067	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
Northern Bobwhite	NOBO	0.063	0.333	0.149	0.633	0.167	0.591
Killdeer	KILL	0.063	-	0.057	0.200	-	0.091
American Woodcock	AMWO	-	-	0.006	-	-	-
Herring Gull	HERG	-	-	-	-	-	-
Royal Tern	ROYT	-	-	-	-	-	-
Rock Dove	RODO	-	-	-	0.067	0.033	-
Mourning Dove	MODO	0.875	0.333	0.690	1.383	0.733	1.182
Yellow-billed Cuckoo	YBCU	0.063	0.167	0.080	0.133	0.117	0.227
Black-billed Cuckoo	BBCU	-	-	0.006	-	-	-
Great Horned Owl	GHOW	-	-	-	0.017	-	-
Barred Owl	BAOW	-	-	-	0.050	-	-
Eastern Screech Owl	EASO	-	-	-	-	-	-
Common Nighthawk	CONI	-	-	-	-	-	-
Chuck-wills-widow	CWWI	-	-	0.006	-	0.017	-
Whip-poor-will	WPWI	0.063	-	0.046	0.117	-	-
Chimney Swift	CHSW	0.063	-	0.029	-	0.100	-
Ruby-throated Hummingbird	RTHU	-	-	-	0.017	-	-
Belted Kingfisher	BEKI	-	0.167	0.006	0.067	-	-
Red-headed Woodpecker	RHWO	0.063	-	0.057	0.217	0.033	0.227
Red-bellied Woodpecker	RBWO	0.688	1.833	0.575	3.217	0.717	3.591
Northern (Yellow-shafted) Flicker	YSFL	0.125	0.667	0.241	0.900	0.300	1.227
Yellow-bellied Sapsucker	YBSA	-	-	-	0.050	-	0.136
Downy Woodpecker	DOWO	-	0.167	0.017	0.167	0.033	0.273

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
Hairy Woodpecker	HAWO	0.063	-	0.029	0.217	0.067	0.273
Pileated Woodpecker	PIWO	0.188	1.000	0.155	0.550	0.117	0.727
Eastern Wood Pewee	EAWP	0.625	0.833	0.626	1.383	0.817	2.045
Acadian Flycatcher	ACFL	-	0.167	0.011	0.150	-	-
Eastern Phoebe	EAPH	0.250	0.167	0.207	0.700	0.083	0.182
Great-crested Flycatcher	GCFL	0.125	-	0.046	0.133	0.083	0.045
Eastern Kingbird	EAKI	0.063	-	0.046	0.100	0.117	0.182
Loggerhead Shrike	LOSH	-	-	-	-	-	-
White-eyed Vireo	WEVI	0.125	0.167	0.098	0.300	0.133	0.591
Yellow-throated Vireo	YTVI	0.125	0.167	0.092	0.067	0.033	0.227
Red-eyed Vireo	REVI	0.438	2.167	0.316	0.800	0.450	1.045
Warbling Vireo	WAVI	-	-	0.040	0.117	0.017	0.273
Blue Jay	BLJA	2.750	5.167	2.385	5.950	1.783	7.727
American Crow	AMCR	3.000	8.500	2.362	7.867	2.300	7.864
Fish Crow	FICR	-	-	-	-	-	-
Purple Martin	PUMA	-	-	0.011	0.017	-	-
Cliff Swallow	CLSW	-	-	3.224	6.883	0.083	0.227
Northern Rough-winged Swallow	NRWS	-	-	-	-	-	-
Barn Swallow	BARS	0.875	1.667	0.224	0.867	0.150	0.773
Tufted Titmouse	ETTI	3.313	8.333	3.764	8.583	2.733	7.909
Carolina Chickadee	CACH	0.250	1.167	0.259	1.567	0.300	1.818
Brown Creeper	BRCR	-	-	-	0.017	-	-
White-breasted Nuthatch	WBNU	-	0.167	0.075	0.450	0.133	1.455

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
Red-breasted Nuthatch	RBNU	-	-	-	-	0.033	-
Brown-headed Nuthatch	BHNU	-	-	-	0.033	0.017	0.091
House Wren	HOWR	-	-	-	-	-	-
Winter Wren	WIWR	-	-	-	-	-	-
Carolina Wren	CARW	-	0.833	0.098	0.900	0.083	0.682
Bewick's Wren	BEWR	-	-	0.017	0.083	-	-
Golden-crowned Kinglet	GCKI	-	-	0.006	0.083	-	-
Ruby-crowned Kinglet	RCKI	-	-	-	-	-	-
Blue-gray Gnatcatcher	BGGN	0.188	0.167	0.155	0.283	0.150	0.227
Eastern Bluebird	EABL	0.438	0.167	0.029	0.383	0.167	0.636
Wood Thrush	WOTH	-	0.500	0.057	0.317	0.083	0.045
Hermit Thrush	HETH	-	-	-	0.083	-	0.045
American Robin	AMRO	0.500	1.167	0.776	1.550	0.567	1.545
Gray Catbird	GRCA	-	0.167	0.034	0.050	0.017	0.091
Northern Mockingbird	NOMO	0.125	0.333	0.092	0.633	0.250	0.682
Brown Thrasher	BRTH	-	0.167	0.011	0.033	-	0.227
European Starling	EUST	-	-	-	-	0.033	0.136
Cedar Waxwing	CEDW	-	0.500	-	0.300	-	-
Prothonotary Warbler	PROW	-	0.333	-	0.017	-	-
Blue-winged Warbler	BWWA	-	-	-	-	0.150	0.045
Northern Parula	NOPA	-	0.167	0.011	0.050	-	-
Yellow-rumped (Myrtle) Warbler	MYWA	-	-	-	0.033	-	0.045
Black and White Warbler	BAWW	-	-	0.006	0.017	-	-

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
Cerulean Warbler	CERW	-	-	0.006	-	-	-
Yellow-throated Warbler	YTWA	-	-	-	-	0.033	-
Prairie Warbler	PRAW	0.063	0.333	0.040	0.083	0.050	0.045
Pine Warbler	PIWA	0.063	-	0.075	0.033	0.033	0.045
Yellow Warbler	YWAR	-	-	-	-	-	-
Kentucky Warbler	KEWA	-	0.167	0.046	0.167	-	0.091
Hooded Warbler	HOWA	-	-	0.029	0.067	0.067	0.318
Worm-eating Warbler	WEWA	-	-	0.034	0.167	-	0.091
Swainson's Warbler	SWWA	-	-	0.006	-	-	-
Louisiana Waterthrush	LOWA	-	-	-	0.017	-	-
Common Yellowthroat	COYE	0.625	0.667	0.368	0.933	0.533	1.227
Yellow-breasted Chat	YBCH	0.125	-	0.046	0.250	0.217	0.455
American Redstart	AMRE	0.063	-	0.023	0.017	-	-
Summer Tanager	SUTA	0.250	0.500	0.190	0.250	0.367	0.227
Scarlet Tanager	SCTA	-	0.167	0.201	0.433	0.067	0.364
Eastern (Rufous-sided) Towhee	RSTO	0.313	-	0.282	0.817	0.483	1.636
Bachman's Sparrow	BACS	-	-	0.006	-	-	-
Field Sparrow	FISP	-	1.000	0.293	0.750	0.833	1.591
Chipping Sparrow	CHSP	0.813	0.667	0.437	0.633	0.267	0.636
Grasshopper Sparrow	GRSP	-	-	-	-	-	-
Savannah Sparrow	SAVS	-	-	-	-	-	0.045
Song Sparrow	SOSP	-	0.167	-	0.033	-	-
White-throated Sparrow	WTSP	-	-	-	-	-	0.045

Table B-3 Relative Abundance of Bird Species Within the Twelve Physiographic Regions (Continued)

Species	Alpha Code	Tennessee Valley Species BBS	Tennessee Valley Species SEPTCT	W. Tenn. Plain Species BBS	W. Tenn. Plain Species SEPTCT	Nashville Basin Species BBS	Nashville Basin Species SEPTCT
White-crowned Sparrow	WCSP	-	-	-	0.517	-	0.182
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	0.200	-	-
Northern Cardinal	NOCA	0.750	2.167	0.782	2.117	0.950	2.909
Dickcissel	DICK	-	-	0.006	-	-	-
Blue Grosbeak	BLGR	-	-	0.023	0.050	0.017	0.045
Indigo Bunting	INBU	1.250	1.167	1.155	2.233	1.700	2.091
Painted Bunting	PABU	-	-	0.029	0.017	0.017	0.091
Bobolink	BOBO	-	-	-	-	-	-
Eastern Meadowlark	EAME	0.938	1.167	0.402	0.983	0.433	2.364
Red-winged Blackbird	RWBL	1.250	0.667	0.483	0.833	0.250	1.136
Common Grackle	COGR	0.188	-	0.029	0.067	0.133	0.045
Rusty Blackbird	RUBL	-	-	-	0.033	-	-
Brown-headed Cowbird	BHCO	0.688	-	0.437	0.433	0.950	0.318
Orchard Oriole	OROR	0.125	-	-	0.033	0.033	-
Baltimore (Northern) Oriole	BAOR	0.125	0.167	0.080	0.050	0.017	0.182
House Finch	HOFI	-	-	0.011	0.117	0.017	0.364
Pine Siskin	PISI	-	-	-	0.117	-	-
American Goldfinch	AMGO	0.063	0.667	0.218	1.083	0.750	2.091
House Sparrow	HOSP	0.125	-	0.011	-	-	-

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
American White Pelican	AWPE	-	52.857	-	-	-	-
Double-crested Cormorant	DCCO	-	18.143	-	-	-	-
Yellow-crowned Night Heron	YCNH	-	-	-	-	-	-
Green Heron (Green-backed Heron)	GNBH	-	0.143	-	-	-	-
Little Blue Heron	LBHE	-	0.143	-	-	-	-
Cattle Egret	CAEG	-	0.143	2.000	-	-	-
Snowy Egret	SNEG	0.167	0.143	-	-	-	-
Great Egret	GREG	-	0.429	3.500	-	-	-
Great Blue Heron	GTBH	0.167	3.286	3.500	0.038	0.083	-
Canada Goose	CAGO	2.667	21.857	-	0.077	-	-
Fulvous Whistling Duck	FUWD	-	0.143	-	-	-	-
Wood Duck	WODU	1.000	0.571	0.750	0.231	-	-
Mallard	MALL	-	-	-	-	-	-
Turkey Vulture	TUVU	-	-	0.250	0.115	-	0.080
Black Vulture	BLVU	-	-	0.500	-	-	0.011
Mississippi Kite	MIKI	-	-	-	-	-	-
Sharp-shinned Hawk	SSHA	-	-	-	-	-	-
Cooper's Hawk	COHA	0.167	-	-	-	0.125	0.034
Broad-winged Hawk	BWHA	-	-	-	-	-	0.011
Red-shouldered Hawk	RSHA	-	-	0.250	0.038	0.042	0.011
Red-tailed Hawk	RTHA	0.333	0.143	0.500	0.077	0.042	0.102
American Kestrel	AMKE	-	-	-	-	-	-
Wild Turkey	WITU	-	-	-	-	0.042	0.080
Northern Bobwhite	NOBO	0.167	0.143	-	0.154	0.167	0.261

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
Killdeer	KILL	0.167	1.000	-	0.077	0.083	0.091
American Woodcock	AMWO	-	-	-	-	-	0.011
Herring Gull	HERG	-	-	-	-	-	-
Royal Tern	ROYT	-	-	-	-	-	-
Rock Dove	RODO	-	0.571	-	-	-	-
Mourning Dove	MODO	0.500	0.286	0.500	0.423	0.667	0.886
Yellow-billed Cuckoo	YBCU	0.500	0.143	0.250	0.269	0.167	0.114
Black-billed Cuckoo	BBCU	-	-	-	-	-	-
Great Horned Owl	GHOW	-	-	-	-	0.042	-
Barred Owl	BAOW	0.333	-	0.250	0.077	-	0.045
Eastern Screech Owl	EASO	-	-	-	-	-	-
Common Nighthawk	CONI	-	-	-	-	-	-
Chuck-wills-widow	CWWI	0.333	-	-	0.038	-	0.011
Whip-poor-will	WPWI	-	-	-	0.038	-	0.080
Chimney Swift	CHSW	-	-	-	-	-	-
Ruby-throated Hummingbird	RTHU	-	-	-	0.038	-	0.023
Belted Kingfisher	BEKI	0.333	0.429	-	0.192	-	0.011
Red-headed Woodpecker	RHWO	1.000	0.714	0.750	0.231	0.583	0.284
Red-bellied Woodpecker	RBWO	3.500	2.571	3.750	3.038	4.625	4.057
Northern (Yellow-shafted) Flicker	YSFL	1.167	0.143	0.750	0.577	1.375	0.989
Yellow-bellied Sapsucker	YBSA	-	-	-	-	-	0.080
Downy Woodpecker	DOWO	-	-	-	0.154	0.042	0.216
Hairy Woodpecker	HAWO	-	-	-	0.231	0.292	0.193
Pileated Woodpecker	PIWO	2.333	0.429	2.750	1.231	0.875	0.705

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
Eastern Wood Pewee	EAWP	0.500	0.714	1.000	0.885	0.500	1.273
Acadian Flycatcher	ACFL	0.167	-	-	0.154	0.250	0.091
Eastern Phoebe	EAPH	0.667	0.143	0.250	0.615	0.250	0.159
Great-crested Flycatcher	GCFL	-	0.143	0.250	0.231	0.167	0.091
Eastern Kingbird	EAKI	-	1.143	-	-	-	0.045
Loggerhead Shrike	LOSH	-	-	-	-	-	-
White-eyed Vireo	WEVI	0.500	0.429	0.750	0.538	0.292	0.341
Yellow-throated Vireo	YTVI	-	0.143	1.250	0.231	0.417	0.307
Red-eyed Vireo	REVI	1.500	0.286	1.000	0.923	1.208	1.375
Warbling Vireo	WAVI	-	-	-	-	0.042	0.114
Blue Jay	BLJA	6.167	5.429	5.500	5.231	7.083	6.364
American Crow	AMCR	6.667	7.429	9.500	7.077	7.417	7.795
Fish Crow	FICR	0.833	0.429	-	0.077	-	0.011
Purple Martin	PUMA	-	-	-	0.115	-	-
Cliff Swallow	CLSW	-	68.429	-	1.231	-	0.023
Northern Rough-winged Swallow	NRWS	0.667	0.857	-	-	-	-
Barn Swallow	BARS	1.500	3.000	0.750	0.846	-	0.080
Tufted Titmouse	ETTI	8.000	5.143	10.750	9.346	11.333	9.489
Carolina Chickadee	CACH	3.500	1.429	2.750	2.577	2.375	1.602
Brown Creeper	BRCR	-	-	-	0.038	-	0.011
White-breasted Nuthatch	WBNU	0.167	-	-	0.269	0.167	0.602
Red-breasted Nuthatch	RBNU	-	-	-	-	-	-
Brown-headed Nuthatch	BHNU	-	-	0.500	0.077	-	0.045
House Wren	HOWR	-	-	-	0.038	-	-

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
Winter Wren	WIWR	-	-	-	-	-	0.011
Carolina Wren	CARW	2.667	1.429	-	0.923	0.833	0.818
Bewick's Wren	BEWR	0.167	0.286	-	-	0.042	0.045
Golden-crowned Kinglet	GCKI	-	-	-	-	-	0.057
Ruby-crowned Kinglet	RCKI	-	-	-	0.038	0.042	-
Blue-gray Gnatcatcher	BGGN	0.333	0.286	-	0.296	0.292	0.432
Eastern Bluebird	EABL	0.333	0.714	-	0.423	0.042	0.148
Wood Thrush	WOTH	-	0.143	0.250	0.385	0.458	0.432
Hermit Thrush	HETH	-	-	-	0.038	0.042	0.068
American Robin	AMRO	1.667	1.857	2.250	1.500	2.167	2.159
Gray Catbird	GRCA	0.167	0.143	-	0.154	0.042	0.045
Northern Mockingbird	NOMO	1.000	1.286	0.250	0.692	0.333	0.398
Brown Thrasher	BRTH	-	0.286	-	-	-	0.080
European Starling	EUST	-	-	-	-	-	-
Cedar Waxwing	CEDW	-	-	-	0.038	0.292	0.330
Prothonotary Warbler	PROW	0.667	-	1.500	0.500	0.167	0.011
Blue-winged Warbler	BWWA	0.167	-	-	-	-	0.045
Northern Parula	NOPA	-	-	-	0.154	0.167	0.034
Yellow-rumped (Myrtle) Warbler	MYWA	-	-	-	0.038	-	0.023
Black and White Warbler	BAWW	-	-	-	0.038	0.042	0.011
Cerulean Warbler	CERW	0.167	-	-	-	-	-
Yellow-throated Warbler	YTWA	0.167	-	-	-	-	-
Prairie Warbler	PRAW	-	-	-	0.115	0.083	0.148
Pine Warbler	PIWA	0.167	0.143	1.000	0.192	0.333	0.341

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
Yellow Warbler	YWAR	-	-	-	-	-	-
Kentucky Warbler	KEWA	0.167	-	-	0.192	0.250	0.193
Hooded Warbler	HOWA	0.833	0.143	0.500	0.577	0.500	0.511
Worm-eating Warbler	WEWA	0.167	-	1.000	0.385	0.125	0.182
Swainson's Warbler	SWWA	0.167	-	0.250	-	0.125	0.023
Louisiana Waterthrush	LOWA	0.167	-	-	0.038	0.167	-
Common Yellowthroat	COYE	1.667	2.143	0.250	0.769	0.208	0.432
Yellow-breasted Chat	YBCH	1.167	0.143	0.250	0.038	0.083	0.239
American Redstart	AMRE	-	-	0.250	-	-	0.057
Summer Tanager	SUTA	0.667	0.286	1.500	0.385	1.375	0.386
Scarlet Tanager	SCTA	0.333	0.143	-	0.308	0.083	0.330
Eastern (Rufous-sided) Towhee	RSTO	-	-	-	0.346	0.292	0.682
Bachman's Sparrow	BACS	-	-	-	-	-	-
Field Sparrow	FISP	-	-	-	0.269	-	0.477
Chipping Sparrow	CHSP	-	0.143	0.500	0.269	0.333	0.534
Grasshopper Sparrow	GRSP	-	-	-	-	-	-
Savannah Sparrow	SAVS	0.167	-	-	-	-	0.011
Song Sparrow	SOSP	0.833	0.429	-	0.038	-	0.011
White-throated Sparrow	WTSP	0.667	-	-	-	-	0.011
White-crowned Sparrow	WCSP	-	0.286	-	0.038	-	0.125
Dark-eyed (Slate-colored) Junco	SCJU	-	1.286	-	-	-	-
Northern Cardinal	NOCA	3.667	3.286	4.500	3.115	2.333	2.330
Dickcissel	DICK	-	-	-	-	-	-
Blue Grosbeak	BLGR	0.333	0.286	0.250	0.115	0.167	0.091

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Stream Species	Lake Species	Swamp Species	Riparian Woodland Species	Bottomland Hardwood Woodland Species	Upland Hardwood Woodland Species
Indigo Bunting	INBU	2.667	2.571	1.250	1.385	0.958	1.352
Painted Bunting	PABU	-	-	-	0.077	-	-
Bobolink	BOBO	-	-	-	-	-	-
Eastern Meadowlark	EAME	-	-	-	0.077	0.042	0.057
Red-winged Blackbird	RWBL	0.333	6.714	1.000	0.346	-	0.091
Common Grackle	COGR	-	0.429	-	-	-	0.045
Rusty Blackbird	RUBL	-	-	-	0.077	-	-
Brown-headed Cowbird	BHCO	-	0.571	0.250	0.346	0.042	0.205
Orchard Oriole	OROR	-	-	-	0.038	-	0.011
Baltimore (Northern) Oriole	BAOR	0.333	-	-	0.154	0.125	0.034
House Finch	HOFI	-	-	-	-	0.083	0.102
Pine Siskin	PISI	-	-	-	-	0.375	0.034
American Goldfinch	AMGO	0.167	0.286	0.500	0.423	0.417	0.795
House Sparrow	HOSP	-	-	-	-	-	-

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood- Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
American White Pelican	AWPE	-	-	-	-	-
Double-crested Cormorant	DCCO	-	-	-	-	-
Yellow-crowned Night Heron	YCNH	-	-	-	0.022	-
Green Heron (Green-backed Heron)	GNBH	-	-	-	-	-
Little Blue Heron	LBHE	0.038	-	-	-	-
Cattle Egret	CAEG	-	-	-	0.067	-
Snowy Egret	SNEG	-	-	-	-	-
Great Egret	GREG	0.154	-	-	0.111	0.214
Great Blue Heron	GTBH	0.154	-	-	0.044	0.286
Canada Goose	CAGO	0.846	0.035	-	0.333	0.714
Fulvous Whistling Duck	FUWD	-	-	-	-	-
Wood Duck	WODU	-	-	-	-	-
Mallard	MALL	0.115	-	-	-	-
Turkey Vulture	TUVU	-	0.070	0.333	0.822	0.357
Black Vulture	BLVU	0.115	-	-	0.200	0.286
Mississippi Kite	MIKI	-	-	-	-	-
Sharp-shinned Hawk	SSHA	-	-	-	0.022	-
Cooper's Hawk	COHA	-	0.088	-	0.067	-
Broad-winged Hawk	BWHA	0.038	0.053	-	0.022	-
Red-shouldered Hawk	RSHA	0.038	-	-	0.044	0.143
Red-tailed Hawk	RTHA	0.038	0.123	-	0.311	0.357
American Kestrel	AMKE	-	-	-	-	-
Wild Turkey	WITU	-	0.105	-	0.244	0.071

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
Northern Bobwhite	NOBO	0.308	0.281	0.667	0.867	1.500
Killdeer	KILL	0.308	0.053	0.333	0.378	2.786
American Woodcock	AMWO	-	-	-	-	-
Herring Gull	HERG	0.115	-	-	0.044	-
Royal Tern	ROYT	-	-	-	-	-
Rock Dove	RODO	-	-	-	0.067	0.071
Mourning Dove	MODO	0.692	0.754	0.667	1.644	2.000
Yellow-billed Cuckoo	YBCU	0.231	0.035	0.333	0.467	0.357
Black-billed Cuckoo	BBCU	-	-	-	-	-
Great Horned Owl	GHOW	0.038	-	-	0.022	-
Barred Owl	BAOW	-	0.018	-	0.111	-
Eastern Screech Owl	EASO	-	-	-	-	-
Common Nighthawk	CONI	-	-	-	-	-
Chuck-wills-widow	CWWI	-	0.053	-	0.022	-
Whip-poor-will	WPWI	0.077	0.035	-	-	0.071
Chimney Swift	CHSW	0.077	-	0.333	0.200	-
Ruby-throated Hummingbird	RTHU	-	0.018	-	-	-
Belted Kingfisher	BEKI	0.038	-	-	0.022	-
Red-headed Woodpecker	RHWO	0.308	0.404	0.333	0.156	0.214
Red-bellied Woodpecker	RBWO	4.000	4.246	2.000	3.778	3.786
Northern (Yellow-shafted) Flicker	YSFL	1.038	1.105	0.667	1.222	0.857
Yellow-bellied Sapsucker	YBSA	-	0.035	-	-	-
Downy Woodpecker	DOWO	0.154	0.053	0.333	0.133	-

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
Hairy Woodpecker	HAWO	0.192	0.193	-	0.133	0.214
Pileated Woodpecker	PIWO	1.154	0.843	0.333	1.044	1.357
Eastern Wood Pewee	EAWP	1.115	0.702	-	0.733	0.786
Acadian Flycatcher	ACFL	-	0.088	0.667	-	-
Eastern Phoebe	EAPH	-	0.088	-	0.533	0.357
Great-crested Flycatcher	GCFL	0.154	0.193	0.333	0.178	0.357
Eastern Kingbird	EAKI	0.038	-	-	0.378	0.286
Loggerhead Shrike	LOSH	-	-	-	-	-
White-eyed Vireo	WEVI	0.423	0.333	1.000	0.422	0.571
Yellow-throated Vireo	YTVI	0.192	0.456	0.333	0.067	0.071
Red-eyed Vireo	REVI	0.500	1.158	0.333	0.356	0.429
Warbling Vireo	WAVI	0.154	0.018	-	0.133	0.071
Blue Jay	BLJA	7.808	7.018	8.000	8.311	6.214
American Crow	AMCR	8.731	8.105	10.667	14.644	16.500
Fish Crow	FICR	0.077	0.053	-	-	0.071
Purple Martin	PUMA	0.038	-	-	0.111	-
Cliff Swallow	CLSW	-	-	-	1.578	0.143
Northern Rough-winged Swallow	NRWS	-	-	-	-	-
Barn Swallow	BARS	0.423	0.053	0.333	4.000	5.357
Tufted Titmouse	ETTI	9.577	9.649	5.000	10.978	9.571
Carolina Chickadee	CACH	3.077	2.930	4.000	1.644	0.857
Brown Creeper	BRCR	0.038	0.035	-	0.022	-
White-breasted Nuthatch	WBNU	0.038	0.263	-	0.089	0.071

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
Red-breasted Nuthatch	RBNU	-	-	-	-	-
Brown-headed Nuthatch	BHNU	0.154	0.053	-	-	-
House Wren	HOWR	-	-	-	-	-
Winter Wren	WIWR	-	0.018	-	-	-
Carolina Wren	CARW	0.923	1.035	1.667	0.600	1.000
Bewick's Wren	BEWR	-	0.053	-	0.044	0.071
Golden-crowned Kinglet	GCKI	0.077	0.140	-	-	-
Ruby-crowned Kinglet	RCKI	-	-	-	-	-
Blue-gray Gnatcatcher	BGGN	0.077	0.281	0.333	0.044	0.143
Eastern Bluebird	EABL	0.077	0.158	3.000	0.933	0.571
Wood Thrush	WOTH	0.269	0.615	0.333	0.133	-
Hermit Thrush	HETH	0.115	0.158	-	0.111	0.214
American Robin	AMRO	0.692	1.070	2.000	1.422	0.929
Gray Catbird	GRCA	0.038	0.035	-	0.022	0.071
Northern Mockingbird	NOMO	0.577	0.526	0.333	0.822	0.929
Brown Thrasher	BRTH	-	-	-	0.044	0.071
European Starling	EUST	-	-	-	0.067	-
Cedar Waxwing	CEDW	-	-	-	0.022	-
Prothonotary Warbler	PROW	-	-	-	-	-
Blue-winged Warbler	BWWA	-	-	-	-	-
Northern Parula	NOPA	0.038	0.070	-	-	-
Yellow-rumped (Myrtle) Warbler	MYWA	-	0.088	-	-	-
Black and White Warbler	BAWW	0.038	0.053	-	-	-

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood-Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
Cerulean Warbler	CERW	-	-	-	0.044	-
Yellow-throated Warbler	YTWA	-	0.070	-	0.022	-
Prairie Warbler	PRAW	0.038	0.088	-	-	0.143
Pine Warbler	PIWA	1.308	1.439	-	0.222	-
Yellow Warbler	YWAR	-	0.018	-	0.022	-
Kentucky Warbler	KEWA	0.308	0.140	0.333	0.044	-
Hooded Warbler	HOWA	0.731	0.596	-	0.244	-
Worm-eating Warbler	WEWA	-	0.123	-	-	-
Swainson's Warbler	SWWA	-	0.053	-	-	-
Louisiana Waterthrush	LOWA	-	0.018	-	-	-
Common Yellowthroat	COYE	0.346	0.368	-	1.867	1.571
Yellow-breasted Chat	YBCH	-	0.070	0.333	0.244	0.714
American Redstart	AMRE	-	0.018	-	-	0.071
Summer Tanager	SUTA	0.769	0.877	1.000	0.356	0.286
Scarlet Tanager	SCTA	-	-	-	0.133	-
Eastern (Rufous-sided) Towhee	RSTO	0.308	0.263	2.333	0.467	0.786
Bachman's Sparrow	BACS	-	-	-	-	-
Field Sparrow	FISP	-	-	-	0.511	1.000
Chipping Sparrow	CHSP	0.962	0.456	-	0.556	0.786
Grasshopper Sparrow	GRSP	-	-	-	-	-
Savannah Sparrow	SAVS	-	-	-	0.022	-
Song Sparrow	SOSP	0.115	-	-	0.067	0.357

Table B-4 Relative Abundance of Bird Species Within Eleven General Habitats (Continued)

Species	Alpha Code	Upland Pine Woodland Species	Mixed Hardwood- Pine Woodland Species	Red Cedar Woodland Species	Fallow Agricultural Field Species	Active Agricultural Field Species
White-throated Sparrow	WTSP	-	-	-	-	-
White-crowned Sparrow	WCSP	0.077	-	-	0.200	1.714
Dark-eyed (Slate-colored) Junco	SCJU	-	-	-	0.067	-
Northern Cardinal	NOCA	2.577	2.684	3.000	3.378	4.286
Dickcissel	DICK	-	-	-	0.111	-
Blue Grosbeak	BLGR	0.077	0.018	0.333	0.222	0.286
Indigo Bunting	INBU	2.000	1.386	4.000	4.022	5.714
Painted Bunting	PABU	-	-	-	0.044	0.071
Bobolink	BOBO	-	-	-	-	-
Eastern Meadowlark	EAME	-	0.018	-	3.889	2.643
Red-winged Blackbird	RWBL	0.615	0.018	-	3.267	4.071
Common Grackle	COGR	0.038	-	-	0.378	0.143
Rusty Blackbird	RUBL	-	-	-	-	-
Brown-headed Cowbird	BHCO	0.231	0.211	0.333	0.933	1.929
Orchard Oriole	OROR	-	-	-	0.022	-
Baltimore (Northern) Oriole	BAOR	0.115	-	0.667	0.022	0.143
House Finch	HOFI	0.115	0.018	0.667	0.556	0.429
Pine Siskin	PISI	-	-	-	0.089	-
American Goldfinch	AMGO	0.577	0.281	0.667	1.844	1.071
House Sparrow	HOSP	-	-	-	-	-

APPENDIX C

ALPHABETIZED ALPHA CODES AND THEIR AFFILIATED SPECIES

Table C-1 Alphabetized Alpha Codes and Their Affiliated Species

Alpha Codes	Species	Alpha Codes	Species
ACFL	Acadian Flycatcher	EUST	European Starling
AMCR	American Crow	FICR	Fish Crow
AMGO	American Goldfinch	FISP	Field Sparrow
AMKE	American Kestrel	FUWD	Fulvous Whistling Duck
AMRE	American Redstart	GCFL	Great-crested Flycatcher
AMRO	American Robin	GCKI	Golden-crowned Kinglet
AMWO	American Woodcock	GHOW	Great Horned Owl
AWPE	American White Pelican	GNBH	Green Heron (Green-backed Heron)
BACS	Bachman's Sparrow	GRCA	Gray Catbird
BAOR	Baltimore (Northern) Oriole	GREG	Great Egret
BAOW	Barred Owl	GRSP	Grasshopper Sparrow
BARS	Barn Swallow	GTBH	Great Blue Heron
BAWW	Black and White Warbler	HAWO	Hairy Woodpecker
BBCU	Black-billed Cuckoo	HERG	Herring Gull
BEKI	Belted Kingfisher	HETH	Hermit Thrush
BEWR	Bewick's Wren	HOFI	House Finch
BGGN	Blue-gray Gnatcatcher	HOSP	House Sparrow
BHCO	Brown-headed Cowbird	HOWA	Hooded Warbler
BHNU	Brown-headed Nuthatch	HOWR	House Wren
BLGR	Blue Grosbeak	INBU	Indigo Bunting
BLJA	Blue Jay	KEWA	Kentucky Warbler
BLVU	Black Vulture	KILL	Killdeer
BOBO	Bobolink	LBHE	Little Blue Heron
BRCR	Brown Creeper	LOSH	Loggerhead Shrike
BRTH	Brown Thrasher	LOWA	Louisiana Waterthrush
BWHA	Broad-winged Hawk	MALL	Mallard
BWWA	Blue-winged Warbler	MIKI	Mississippi Kite
CACH	Carolina Chickadee	MODO	Mourning Dove
CAEG	Cattle Egret	MYWA	Yellow-rumped (Myrtle) Warbler
CAGO	Canada Goose	NOBO	Northern Bobwhite
CARW	Carolina Wren	NOCA	Northern Cardinal
CEDW	Cedar Waxwing	NOMO	Northern Mockingbird
CERW	Cerulean Warbler	NOPA	Northern Parula
CHSP	Chipping Sparrow	NRWS	Northern Rough-winged Swallow
CHSW	Chimney Swift	OROR	Orchard Oriole
CLSW	Cliff Swallow	PABU	Painted Bunting
COGR	Common Grackle	PISI	Pine Siskin
COHA	Cooper's Hawk	PIWA	Pine Warbler
CONI	Common Nighthawk	PIWO	Pileated Woodpecker
COYE	Common Yellowthroat	PRAW	Prairie Warbler
CWWI	Chuck-wills-widow	PROW	Prothonotary Warbler
DCCO	Double-crested Cormorant	PUMA	Purple Martin
DICK	Dickcissel	RBNU	Red-breasted Nuthatch
DOWO	Downy Woodpecker	RBWO	Red-bellied Woodpecker
EABL	Eastern Bluebird	RCKI	Ruby-crowned Kinglet
EAKI	Eastern Kingbird	REVI	Red-eyed Vireo
EAME	Eastern Meadowlark	RHWO	Red-headed Woodpecker
EAPH	Eastern Phoebe	RODO	Rock Dove
EASO	Eastern Screech Owl	ROYT	Royal Tern
EAWP	Eastern Wood Pewee	RSHA	Red-shouldered Hawk
ETTI	Tufted Titmouse	RSTO	Eastern (Rufous-sided) Towhee

Table C-1 Alphabetized Alpha Codes and Their Affiliated Species (continued)

Alpha Codes	Species
RTHA	Red-tailed Hawk
RTHU	Ruby-throated Hummingbird
RUBL	Rusty Blackbird
RTHA	Red-tailed Hawk
RTHU	Ruby-throated Hummingbird
RUBL	Rusty Blackbird
RWBL	Red-winged Blackbird
SAVS	Savannah Sparrow
SCJU	Dark-eyed (Slate-colored) Junco
SCTA	Scarlet Tanager
SNEG	Snowy Egret
SOSP	Song Sparrow
SSHA	Sharp-shinned Hawk
SUTA	Summer Tanager
SWWA	Swainson's Warbler
TUVU	Turkey Vulture
WAVI	Warbling Vireo
WBNU	White-breasted Nuthatch
WCSP	White-crowned Sparrow
WEVI	White-eyed Vireo
WEWA	Worm-eating Warbler
WITU	Wild Turkey
WIWR	Winter Wren
WODU	Wood Duck
WOTH	Wood Thrush
WPWI	Whip-poor-will
WTSP	White-throated Sparrow
YBCH	Yellow-breasted Chat
YBCU	Yellow-billed Cuckoo
YBSA	Yellow-bellied Sapsucker
YCNH	Yellow-crowned Night Heron
YSFL	Northern (Yellow-shafted) Flicker
YTVI	Yellow-throated Vireo
YTWA	Yellow-throated Warbler
YWAR	Yellow Warbler

